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[aeg.co.uk/care](http://aeg.co.uk/care)







HONOR VIEW 20 REVIEW: NO MORE NOTCH

# T3

SMARTER LIVING

2019'S TOP TECH

# GADGET WISHLIST

- 40 buys to supercharge your world
- Amazing tech from £59 to £8k
- New Dolby Atmos, Alexa kit & more

WORLD FIRST

## ROLLABLE OLED TV

Meet the most futuristic set ever



HOT NEW  
8K TVs



TOP 6

Fitness trackers for newbies

## 5G GUIDE

It's coming!  
Here's what you need to know

TESTED

## HI-FI STREAMING SPEAKERS

Incredible sound, next-gen tech



## DITCH THE LAPTOP!

Souped-up tablets from Apple, Google and Microsoft are ready to muscle out your notebook

FUTURE





# LSX

GIVE YOUR MUSIC THE SPACE IT DESERVES



## True Stereo Wireless Music System

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**KEF**





# SHOWSTOPPER

Gadgets that showcase the very best that design and technology have to offer

## MAKE YOUR MOVE

Fancy a round of chess on the go? Square Off's rechargeable battery should be good for around 30 games. The board even comes with a neat stand for your smartphone, so you can easily keep an eye on the app



## SQUARE OFF

The internet has revolutionised how we engage in our favourite board games, enabling us to play Scrabble, Carcassonne and so on with loved ones halfway across the globe, even while sat on the toilet. But online chess has never quite cut it, lacking the thrill that comes from brooding over a real-life chequerboard like Field Marshal Montgomery planning his next battle strategy. Recognising this, a company called InfiVention has developed a gadget called Square Off. Pairing with your smart device, it lets you lock horns with absent pals or strangers via the web, but on a physical board. Watching your invisible opponent's pieces glide autonomously across the handcrafted rosewood surface can be eerie, but you'll quickly become too engrossed in the game to care. In the event that you can't find someone to play against, you can challenge Square Off's built-in AI engine – there are 20 skill levels to choose from. Or, if you want to learn from the best, you can live-stream a professional match and, as if by magic, the action will unfold in real-time on your own Square Off board.

From \$369/£284, [squareoffnow.com](http://squareoffnow.com)



# Meet the team



**MATT BOLTON**  
Editor

Matt scoured the halls of CES, leaving no giant stand unturned, hunting down the coolest tech coming in 2019 (p37). Not much stands up to the rollable TV on our cover, but the Alexa toilet was close.



**CLAIRE DAVIES**  
Senior Content Editor  
Claire has broken free from the shackles of her laptop, dancing freely into the world of pro tablets (p55). Well, it was less a dance and more 'putting one in her backpack and saying how light it was'.



**JO GULLIVER**  
Senior Art Editor  
The smart home speaker scene has failed to satisfy Jo in the past. Echo? Too puny. Sonos One? Too delicate. The beastly Google Home Max (p88) finally leaves her ears ringing the way she likes it.



**MICHELLE McLAREN**  
Art Editor

The new long-range Nissan Leaf (p10) is top of Michelle's wishlist. The 239-mile range is now enough to get through an entire Saturday of ferrying the kids everywhere they demand to go. Revolutionary.



**RUSSELL LEWIN**  
Production Editor  
Russell had a hard time choosing which fitness tracker (p90) was right for him, so he's taken to wearing one on each wrist, like our very own Diego Maradona. (He also cheats at football.)



**ANDREW WESTBROOK**  
Operations Editor  
When faced with the array of exciting tech this issue, Andy said he was most looking forward to trying... the cordless vacs (p86). The sad thing is, he was by no means alone in that. We're all so old.



**PAUL DOUGLAS**  
Global Editor-in-Chief

Boss man Paul needs the best internet connection all the time for all the bossing he has to fit in. Our feature on the arrival of 5G (p73) shows how he'll be bossing more efficiently than ever soon.



**DUNCAN BELL**  
Lifestyle Editor  
Duncan has heard a lot of speakers in the time, so you have to be a bit clever to impress him. It turns out the streaming speakers in our State of the Art test (p64) are quite a lot clever.



**SPENCER HART**  
Product & Style Editor  
Spencer got to keep the Jaguar I-PACE electric car around for a long-term test (p22) this issue, and it turns out Jaguar is very good at making really nice cars. Who knew!



**ROB JONES**  
Tech & Gaming Editor  
Rob took on the job of testing the Honor View 20 for our review (p82). As T3's resident hater of notches, he wanted to give it full marks before he'd even touched it, but we made him do it right.



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Our latest subscription offer gets you this protective and water-resistant STM laptop bag, worth £69.99 for free! See the latest prices on a T3 subscription on p52!

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### VISIT T3.COM

We've overhauled T3.com – the best site for gadget news and reviews now has a great new look and is fully responsive, enabling you to enjoy it on any device.





## Editor's letter

**It's quite thoughtful that the biggest gadget trade show is right at the start of January, because it really sets the pace for the year ahead, and gives us a chance to look at what's worth digging into.**

The three big things you're going to hear tons about in 2019 are 8K TVs, 5G, and basically every appliance in the world being controllable from Alexa and Google Assistant. The last of those is no surprise – one of 2018's big trends was building Alexa and Assistant into pretty much anything, so now it's only logical to make everything from taps to slow cookers controllable via them. 8K TVs are going to be more of a slow burn – it looks like Samsung has the field to itself until the second half of this year, and there's definitely an element of 'Does anyone really need this?' even then – but when you see these sets in action, the answer is definitely 'No, but I want it so bad', which is pretty much the T3 family motto, so we're on board.

As for 5G, the key thing right now is just to know what's coming up: it will start to roll out this year, but don't expect the whole country to switch over at once. We've looked at what the tech can do initially, what it might do in the future, and what devices are coming up – with input from some of the big players involved – starting on p73.

**Matt Bolton, Editor**

[matthew.bolton@futurenet.com](mailto:matthew.bolton@futurenet.com)

Tweet me @matthewbbolton

## T3'S MISSION

Our mission is to bring you the clearest recommendations we can – and that means a great deal of hard work happens before a product even reaches our pages!

Because we only feature products the T3 team would happily use ourselves, we end up discarding a significant number of options in each category before settling on a final shortlist to review. We select only the best of the best for our Tested section; the gear we know you'll want to seriously consider purchasing. And that should mean an end to you

having to undertake hours of painstaking research and product comparisons.

You won't see any duff products, but you will come away with clarity on which one is the best in its category or for a specific task: our awards badges (see below) ensure that everything T3 recommends is clearly highlighted on the page.

It goes without saying that every product in our review section as been thoroughly tested by our team of experts, enabling you to buy with total confidence.

## OUR AWARDS



Only the best products – those that score five stars – receive our coveted Platinum Award



This is given to winners of our group tests, so you can see exactly which is the best at a glance



This accolade and others like it show you which gear is best for specific features or tasks



For kit that demonstrates exceptional industrial design and refinement, in addition to being great



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Incredible tech is heading your way right now, and it's on a mission to better your life! Get set for epic gaming laptops, laundry robots and a beer fridge that restocks itself



## 046 VISION OF THE FUTURE

Want to know what's big in tellies for 2019? These six sets right here, that's what. Supremely smart and outlandishly gorgeous, install one in your living room and you'll never want to leave home



## 073 5G: EVERYTHING YOU NEED TO KNOW

It's coming and it's going to change everything. Speedier downloads are just the tip of the mobile tech iceberg, as you'll now discover in our guide to 4G's mighty successor



## 055 LOSE THE LAPTOP

Is the latest breed of pro tablets good enough to properly replace your laptop? Let's find out...



## 064 STATE OF THE ART

Three super-stylish high-end wireless speakers go head-to-head for that coveted spot in your home





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How well music is converted to energy by your headphones is just as important as how professionally the digital data from your smartphone or computer is converted to analogue.

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Chord Electronics Ltd.





## HORIZON

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### HORIZON TOP

Capture life with Sony's powerful new camera, take a ride in the revamped Nissan Leaf, or overhaul your home cinema with LG's latest soundbar

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Buddy up with the latest fitness gadgets to lose belly fat and feel trim

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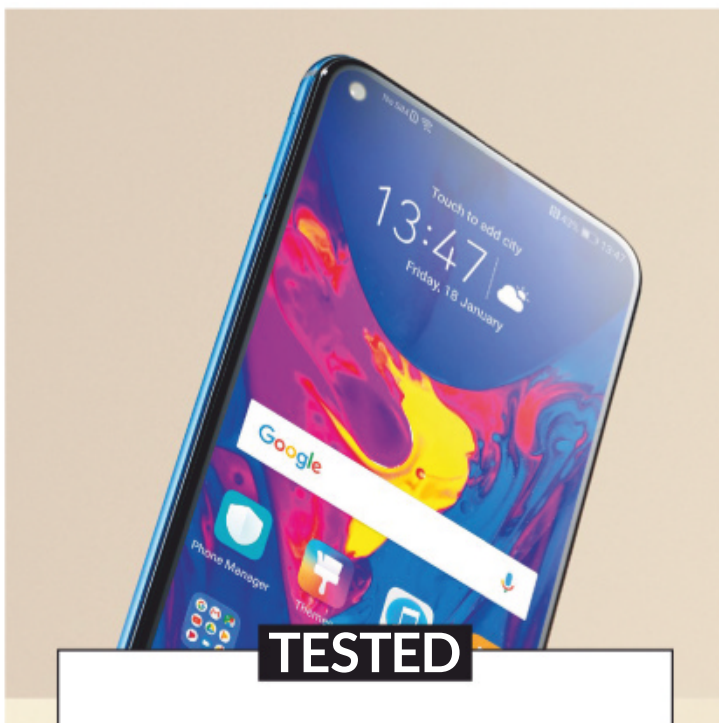
### GADGET GURU

Our tech sage talks ultimate Blu-ray setups, and whether such a thing as a 'no-effort' (from you) robot vac exists

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### TALKING TECH

TVs are so damn good now, says Duncan Bell, that it makes it harder to know which one to buy



## TESTED

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### HONOR VIEW 20

With its new mid-price phone, Honor's promising flagship power and speed, a strong camera, a stunning screen and cutting-edge design. Has it delivered?

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### SHARK DUO CLEAN CORDLESS VS VAX BLADE MAX 2

We've been saving up all our dirt and pet fur for this test, in the hopes of discovering which of these two cordless vacs sucks the most (best)

087

### GOOGLE HOME MAX

T3 pumps up the volume with the Big G's beefy smart speaker to see if its performance is as mighty as its size



088

### ASUS ZENBOOK PRO 14

Does having a screen in your trackpad make a laptop work and play easier? Asus is really hoping so

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### FIRST-TIME FITNESS TRACKERS

We test six of the best fitness trackers for beginners and explain how they can help you get off the sofa

092

### IZOTOPE SPIRE STUDIO

Calling all budding Ed Sheerans! Use this dinky multi-track recording gadget to quickly get those songs out of your head and onto your computer

# WIN!

## 1 OF 4 NEXT-BASE 612GW DASH CAMS

Boost your driving confidence with Nextbase's 612GW 4K dash cam. We loved it so much we made it Best Car Gadget of 2018, and now we have four to give away. Here's how you could win one...

093

WORTH  
£1,000  
TOTAL!



## BEST OF THE BEST

095

### YOUR IN-DEPTH BUYER'S GUIDE

Our giant buyer's guide helps you find the world's best gadgets in over 50 categories, from top tellies to DSLRs to car tech to shavers – all tested by T3's team of tech experts!

## SUBSCRIBE AND SAVE BIG MONEY

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052





# ANANSI BOYS

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# Horizon

The best new tech heading your way

Edited by Claire Davies

## 1 NISSAN LEAF E+ 3.ZERO

● From £35,000, [nissan.co.uk](http://nissan.co.uk)

According to reports, a Nissan Leaf was sold every ten minutes in Europe last year, making it the continent's best-selling electric vehicle. Without wishing to rub it in, those people might've been better off waiting a few months, because the company has already trumped 2018's second-gen model with two brand-new editions, the 3.ZERO and the e+ 3.ZERO.

Okay, so the cheaper 3.ZERO doesn't differ too much from last year's car: the main developments include a larger, eight-inch infotainment screen that offers Tesla-esque door-to-door navigation, plus some new colour choices including two-tone options. The higher-end e+ 3.ZERO represents a sizeable upgrade, primarily because it contains a 62kWh battery, as opposed to the 2018 Leaf's and the standard 3.ZERO's 40kWh units.

That equates to around 40% more range, giving drivers a claimed 239 miles from a single charge. Even more impressive, Nissan has somehow managed to cram in all that extra power without compromising the compact shape that has made the Leaf so popular among city slickers. In fact, the only modification is a measly 5mm increase in ride height.



The first deliveries of the standard Leaf 3.ZERO are due in May, with the limited-edition e+ 3.ZERO following a couple of months later... Just in time to embark on some summer cruising



### TECH-O-METER



### T3 SAYS...



“With better in-car tech, the Leaf 3.ZERO e+ is destined to stay on top of the EV tree”

Matt Bolton, Editor



**SMART DRIVING**

Another feature carried over from last year's Leaf is ProPILOT, a semi-autonomous driving system that keeps you from hitting the car in front while travelling on the motorway. It also navigates the car into parking spaces

**ALL-IN-ONE**

Like the 2018 Leaf model, the two 3.ZERO editions come with Nissan's revolutionary e-Pedal. Depress it and the car will move forward, take your foot off and it'll slow down. It makes a big difference to the car's efficiency

**VIRTUAL VIEW**

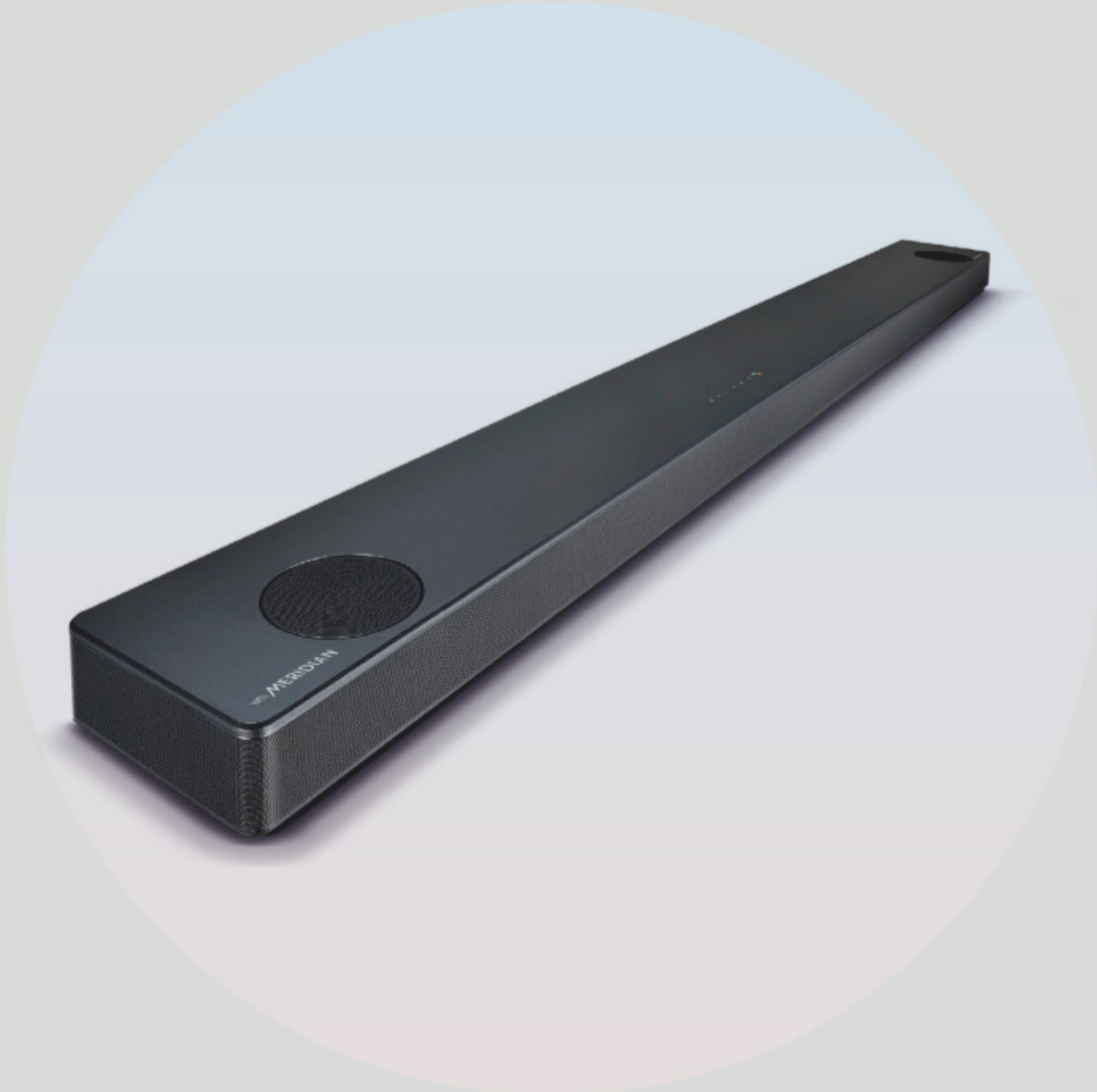
Four cameras combine to give you a virtual 360-degree bird's eye view of the car on your dash-mounted display. This enables you to perform tricky manoeuvres with confidence. You'll also get a warning if something's about to hit you



**2 LG SL10**  
● £TBC, lg.com

Here at *T3*, we like our movie soundtracks to be pant-soilingly realistic. After all, what’s the point in watching *Jurassic Park* if you can’t imagine that it’s *you* who’s about to become the T-Rex’s mid-morning snack? So naturally our ears pricked up when we heard about LG’s latest soundbar in collaboration with high-res audio pioneer Meridian. With support for both Dolby Atmos and DTS:X, lossless audio playback, 4K pass-through and Meridian’s Bass & Space and Image Elevation technologies on board, this promises immersive, lifelike sound. Not only that, but the SL10 has Google Assistant built in, so you can use your voice to increase the volume, carry out tasks around your smart home... or maybe order some new underwear.

**T3 SAYS:** LG’s latest soundbar combines premium audio tech with voice assistance for a memorable movie-watching experience.



**3 THINKWARE Q800 PRO**  
● From £269, thinkware.com

How are you supposed to convince a jury of your driving innocence when your crash footage is grainier than a bowl of muesli? To ensure you capture every detail, Thinkware has upgraded its popular dash cam, the F800 PRO. The Q800 PRO delivers double the pixels in its forward-facing camera, so you now get QHD quality as opposed to the previous cam’s Full HD. Super Night Vision 2.0 promises up to 10 times the usual brightness in darker conditions. An Energy Saving mode sends the dash cam to sleep until an impact is detected, then wakes it up within one second to begin filming. Finally, CLOUD connectivity with built-in Wi-Fi means you can view, download or delete recorded footage on the spot from your phone.

**T3 SAYS:** If you’re involved in a crash, the Q800 PRO’s crystal-clear footage and myriad features should have your back.







# Mac FORMAT

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to live the Apple life



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4 SONY A6400  
● £950, [sony.co.uk](http://sony.co.uk)

What could be more frustrating than missing out on that once-in-a-lifetime photo of a monkey hitching a ride on a rhino, just because your camera couldn't get into focus quick enough? Thankfully, such mishaps should never happen with the a6400. Sony claims its latest 24MP addition to the E-mount mirrorless camera line-up has the "world's fastest" autofocus – a high-speed, high-performance tracking system combined with a BIONZ X image-processing engine to deliver sharpness in a ridiculously quick 0.02 seconds. A feature called Real-Time Tracking uses AI-based object recognition to ensure everything in your image is captured with stunning accuracy. The a6400 is a dab hand at shooting 4K video, too.

**T3 SAYS:** Compact and crammed with features, Sony's latest mirrorless camera looks like one sharp shooter.



5 PIONEER VSX-534  
● £330, [pioneer-audiovisual.eu/uk](http://pioneer-audiovisual.eu/uk)

Never has the old adage 'less is more' been more appropriate than in the case of Pioneer's new entry-level AV receiver. The VSX-534 may be compact-ish, but it packs some serious capability. There's support for both Dolby Atmos and DTS:X, but in the event that you don't have height or surround speakers, you can still enjoy all-consuming 3D audio thanks to the inclusion of Dolby Atmos Height Virtualizer and DTS Virtual:X tech. What's more, Pioneer's MCACC (Multi-Channel Acoustic Calibration System), developed in conjunction with professional recording-studio engineers, should ensure you get precision balance from your setup, even if your speakers are unevenly spaced and different sizes.

**T3 SAYS:** Not only is this feature-packed AV receiver great value for money, it's pretty much future-proof too.





# WHAT HI★FI?



Available at WHSmith, [myfavouritemagazines.co.uk](http://myfavouritemagazines.co.uk)  
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## 6 CYBIC E-LEGEND

● £TBC, halfords.com

Alexa Voice Service is everywhere this year, including inside your bicycle. That's if you jump on the Cybic E-Legend, an electric steed sitting pretty in the world's first range of connected bikes to feature Alexa. With it you can get turn-by-turn directions, personalised bike light settings, real-time traffic and weather updates, and all without having to add extra gizmos.

The Wi-Fi-enabled bike (it also comes with a Vodafone SIM with three years' free 3G data), available exclusively from Halfords this summer, sports a touchscreen mount on the handlebars, giving you access to a suite of smart functions that can be controlled manually or via Alexa. These functions include GPS tracking, route mapping, crash detection sensors and an electronic lock and anti-theft alarm system.

**T3 SAYS:** With Alexa on board, this bicycle signals the next stage in connected bike tech.

### TECH-O-METER



## 7 HOUSE OF MARLEY LIBERTY AIR

● \$150 (£115), thehouseofmarley.co.uk

Thirty-eight years after his death, Bob Marley's legend lives on – and not just in his music. The reggae icon's estate has been keeping his spirit alive through a series of audio devices crafted from sustainable materials, and the one we're most looking forward to this year (set for July release) is the brand's first truly wireless earphones. Partly sculpted from and finished in wood, the Liberty Air earbuds are sure to prompt a few admiring glances as they nestle in your ears.

With Bluetooth 5.0 tech for rock-solid connectivity, built-in touch controls, IPX4 sweat- and water resistance for exercise, and seven hours of battery life, they offer far more than just good looks.

**T3 SAYS:** Whether you like reggae or not, your ears need these wireless wooden wonders.

### TECH-O-METER





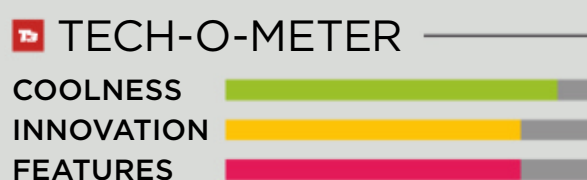
## 8 MEURAL GENERATION 3.0 CANVAS

● \$595 (£457, 27-inch model), meural.com

Splashed out on an expensive artwork, only to soon get bored of it? A couple of years back, tech start-up Meural aimed to put an end to such frustrations with its Smart Canvas, a Wi-Fi-enabled wall device that enabled you to browse 30,000 images from the world's galleries, before displaying your chosen work on a high-def digital panel. Well, last year Netgear bought the company, and the partnership's first launch is a third-gen edition of said device, offering enhanced Wi-Fi performance and an additional size option (21.5 inches, to go with the original 27-inch

unit). Bezels come in a range of styles – black, white, light wood or dark wood – to match your home furnishings. And the display will even respond to changing lighting conditions, ensuring your print looks awesome night and day.

**T3 SAYS:** Meural's smart art panel now works better than ever.



## 9 RESSENCE TYPE 2 E-CROWN

● 42,500CHF (£32,707), ressencewatches.com

The latest from Antwerp-based Ressence is dubbed 'the first mechanical watch with a smart crown', and marries classic styling and machinery with next-gen smarts. Once you've set the time manually via a lever on the back, double-tap the crystal on the dial and the time will be digitally registered by the light-powered 'e-Crown' – after which you'll never have to adjust it again.

Via an app, you can save the times for two different world cities, then flick between them on the watch itself. There's a nifty time-saving feature too: if you go 12 hours

without wearing the watch, the e-Crown shuts down the mechanics, booting them up again when you put the watch back on. The Type 2 luxury will be available to buy as of April.

**T3 SAYS:** The Type 2 is proof that you don't need things like email notifications and voice activation to make a watch smart.



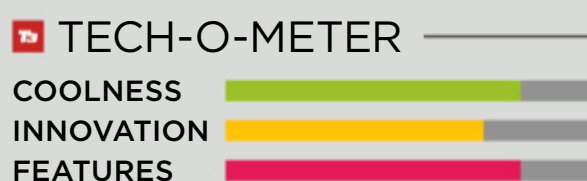
## 10 TP-LINK KASA SMART WIRE-FREE CAMERA

● £TBC, kasasmart.com

Best-known for making internet routers and the like, TP-Link has started branching out into smart-home tech via its Kasa Smart subsidiary, and announced at CES that it will be launching a clutch of new security gadgets over the next 12 months or so. Expected to land in summer, the Wire-Free Camera is a weatherproof (IP65-rated) device that will keep an eye on your gaff either inside or out, feeding back high-quality, 1080p footage to your smartphone – no matter where you are in the world – via its companion Wi-Fi hub. There's a built-in siren in

case it detects anything amiss, and you even get free cloud storage as part of the package. The only downside is that the camera looks so good, those pesky thieves might want to get their greasy mitts on it.

**T3 SAYS:** Peace of mind has rarely looked this stylish. TP-Link's first smart-home gadgets have impressed.





WE CAN BUILD YOU...

# A SMARTER BIKE SETUP

Whether you're commuting, touring or speed riding, this gaggle of cycling gadgets will upgrade your ride

## THE READER

**Olivia Aarens**

After a long break from cycling, Olivia is dusting off her drop-handlebar road bike for commuting and weekend rides, but she needs a little help to make the ride easier.

## THE EXPERT

**Nick Odantzis**

T3's two wheeled know-it-all, Nick commutes by bike, is a regular club rider and is obsessive about the latest cycling gear. His mindset: there's no bad ride, just a bad setup.

1

### EXPOSURE LIGHTS

The best way to keep yourself seen by other road users at night, and indeed in the day, is a smart set of front and rear lights. Exposure's party piece in its lighting range is the Blaze Mk3 with ReAKT and Peleton rear light, which automatically adjusts its brightness according to its surroundings, flaring like a brake light when you slow down or dimming when it detects a rider's front light from behind. Perfect for those club rides.

**£115 (Blaze Mk3), [exposurelights.com](http://exposurelights.com)**

2

### CYTRONEX C1

For those needing a little help in the leg department, an ebike conversion kit is a great way to give your existing bike some oomph. This lightweight kit from Cytronex is appealing in that it's simple to outfit your bike with (just swap your front wheel out, add the battery bottle cage and attach the control unit to your handlebars). The power delivery is smooth and silent, and you can pre-set your own custom power levels to choose from during a ride.

**£995, [cytronex.com](http://cytronex.com)**

3

### MORPHER HELMET

The idea of a helmet that folds might seem at odds with its intended purpose, but the multi-award-winning Morpher helmet offers just as much protection as a regular lid, but has the added convenience that it can be quickly folded down to a mere 2.5-inches thick, allowing you to place it into a small rucksack or briefcase.

**£109, [morpherhelmet.com](http://morpherhelmet.com)**

4

### JABRA ACTIVE 65T

If you must wear headphones while riding (hey, we're not ones to judge), then these are the best way to do it. They fit snugly in ear, are sweat resistant (IP56), and compatible with all major voice assistants, giving you voice control as you ride. They also sound splendid, and adjustability for ambient noise means you can still hear traffic when you're on the road.

**£169, [jabra.co.uk](http://jabra.co.uk)**

5

### SILCA TATTICO BLUETOOTH PUMP

Want to keep tabs on tyre pressures on rides? Then a portable bicycle pump is the ticket, but unless you take along a separate pressure gauge, how do you know how much air you're pushing into your tubes? Silca's Tattico Bluetooth pump is the answer, allowing you to check pressures on your phone as you inflate. It's presta/schrader compatible and is capable of up to 120psi of pressure.

**£119, [silca.cc](http://silca.cc)**

6

### GORE C7 GORE-TEX SHAKEDRY STRETCH

Yes, it might resemble a bin liner, but don't be fooled by its looks – the C7 has loads of tech packed into its paper-thin material, including a highly waterproof and breathable Gore-Tex Active membrane, with the added benefit of ShakeDry (just shake it to de-bead it), and this 'Stretch' version is extra comfy. Best of all is that the C7 packs down to the size of a tennis ball, so you can take it everywhere.

**£279, [gorewear.com](http://gorewear.com)**







2



3



5



**SAYS...**



“Make your bike commute a lot smarter with a few key upgrades”

Claire Davies, Senior Content Editor

4





# CAN I KICK IT?

Yes you can, with this selection of superb trainers that are also good for much more than five-a-side or getting active down the gym

1



2



4



5



3



## 1 ADIDAS PERFORMANCE ULTRABOOST 19

The latest iteration of Ultra Boost tech guarantees a comfy fit, along with enough athleisure street cred to impress even the fanboys.

**£160, [sneakersnstuff.com](https://sneakersnstuff.com)**

## 2 ASICS GEL QUANTUM 360 KNIT TRAINERS

Versatility in a trainer will get you bang for buck. These can be worn to the gym and also with denim.

**£160, [offspring.co.uk](https://offspring.co.uk)**

## 3 NIKE AIR VAPORMAX FLYKNIT

Kick your new year off with a stylish pair of Nikes. The speckled yet subdued colourway of these VaporMax looks good with everything.

**£200, [kickgame.co.uk](https://kickgame.co.uk)**

## 4 COMMON PROJECTS ORIGINAL ACHILLES

Common Projects' Achilles is the best all-round designer sneaker you can buy. The well-made, minimalist design goes with practically anything.

**£290, [mrporter.com](https://mrporter.com)**

## 5 Y-3 HARIGANE LEATHER SNEAKERS

The brand that marries runway fashion with Adidas performance, this sneaker from Y-3 makes a statement without being OTT.

**£217, [farfetch.com](https://farfetch.com)**

## WHICH WATCH

# THE HOTTEST TIMEPIECES RIGHT NOW

## > CARL F BUCHERER, MANERO FLYBACK CHRONOGRAPH

This stylish timepiece captures the spirit of bygone eras with a smooth 18k rose gold case, convex sapphire crystal, and striking mushroom push buttons.

**£TBC, [carl-f-bucherer.com](https://carl-f-bucherer.com)**



## > TUDOR, GLAMOUR DOUBLE DATE

The updated version of Tudor's classic dress watch features a new Manufacture Calibre movement visible through the case back, a small seconds hand, and refined dial.

**£2,640, [tudorwatch.com](https://tudorwatch.com)**



## > CHRISTOPHER WARD, C65 TRIDENT AUTOMATIC

This self-winding timepiece is the newest addition to Christopher Ward's successful C65 Trident Collection. It features a modified bezel and a bold new dial.

**£695, [christopherward.co.uk](https://christopherward.co.uk)**





## DRESS LIKE

## CHADWICK BOSEMAN

Lift your style game just like the  
Black Panther star

## THE COAT

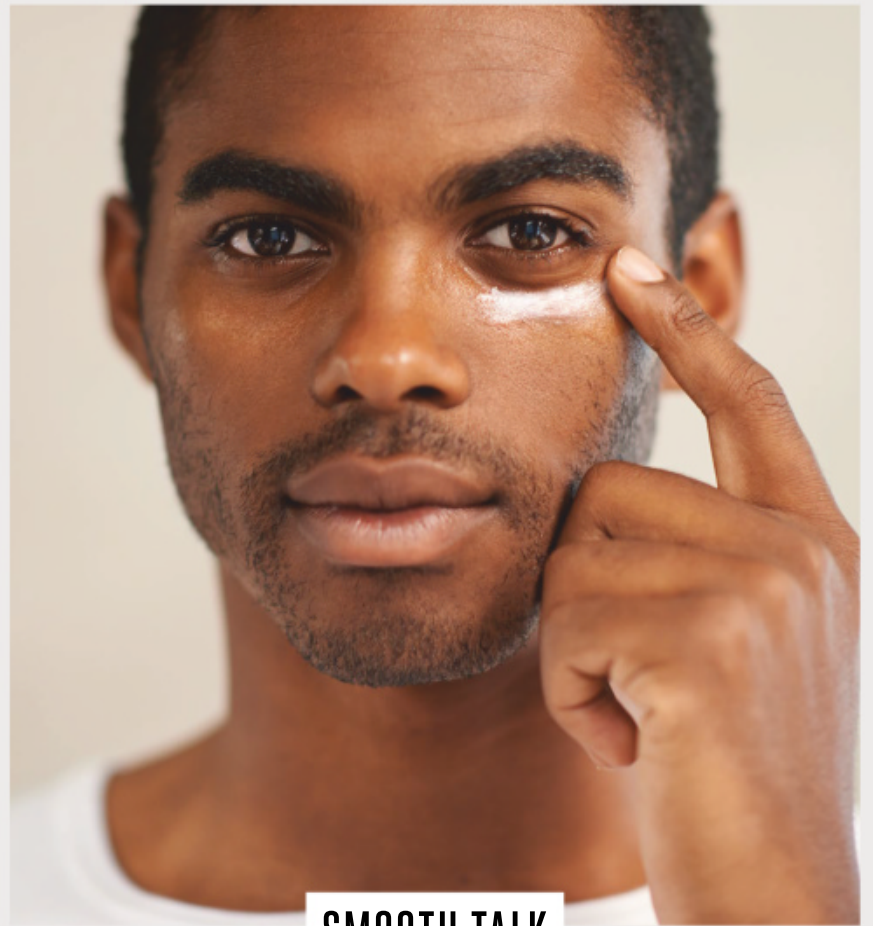
Whichever film premiere he attends, Boseman always looks confident and dapper. This checked camel overcoat holds the outfit together. Try a lookalike checked coat from Mr P. ([mrporter.com](http://mrporter.com), £472).

## THE TROUSERS

Alternating to trousers in a darker brown than the coat provides a clever colour anchor for this outfit. A similar side-striped pair from Stella McCartney works a treat. ([matchesfashion.com](http://matchesfashion.com), £310)

## THE SHOES

Boseman keeps it low-key with a simple pair of boots, but which also strengthen his posture. Copy this with a well-cut pair of Chelsea boots from Leqarant. ([farfetch.com](http://farfetch.com), £208)



## SMOOTH TALK

HOW TO NOURISH  
YOUR SKIN DURING  
WINTER

A skincare expert shares what you  
need to know

Months of cold weather have already passed at this time of year, so it's likely that your skin has suffered the extremes of icy temperatures and extra heating to compensate for it. This can leave the skin on your face and hands feeling rough. While you could go for all-out professional treatment, there is plenty you can do to move towards healthier skin in winter. To find out the best approach, T3 asked Susan Mortimer, director of brand Hey Gorgeous Skincare ([heygorgeous.uk](http://heygorgeous.uk)), how it's done. Mortimer recommends a range of products, namely an activated charcoal cleanser, vitamin C serum for collagen regeneration, plus moisturiser and eye cream as part of a daily routine. "Men should cleanse and moisturise their skin on a daily basis," Mortimer says. "Clean and hydrated are vital components of good skincare. I would recommend that anyone over the age of 30 include some anti-ageing products as well." A good treatment at this time of year is one to remove dead skin cells. That's because they clog pores, form the base of blackheads and prevent products from reaching the skin. "A good exfoliator once a week in winter will clean out the pores as well as brighten the surface of the skin," she explains. Using a quality moisturiser consistently each day will prevent some of the knock-on effects if your skin has a tendency to dry out. "Choose a moisturiser that uses Jojoba...[and] avoid any harsh products that strip away the skin's natural defences. Squeaky clean is not always a good thing," Mortimer says.

MONEY  
NO OBJECT

Gucci, Bee-embellished grained leather gloves

These Italian-made gloves from Gucci are the ideal accessory for making a statement. Made from black leather and featuring cashmere lining, they exude sophistication thanks to the minimalist detailing and quality construction. Tonal topstitching is used to frame the gloves, while the gold-tone bee embellishment shows that what you're wearing is unmistakably Gucci. **£495,** [matchesfashion.com](http://matchesfashion.com)





## FRESHEN UP YOUR RIDE



### AIRBUBBL

Attach this to your headrest, and its nano-carbon filter will remove 95% of pollutants – including pollen and bacteria – from the air within 10 minutes.

**£299, [airbubbl.com](http://airbubbl.com)**



### MOODO GO

Fitting into your cup holder, and powered by your in-car USB port, the Moodo Go features interchangeable scent capsules and a dial to adjust intensity.

**\$39 (£30), [moodo.co](http://moodo.co)**



### HALFORDS UPHOLSTERY CLEANER

A deep-cleaning foam to help remove offending stains and smells. It dries quickly, too, so you won't have to wait ages to get seated again.

**£3.50 for 500ml, [halfords.com](http://halfords.com)**



### BRIGHT SPARK

## KEEPING PACE ON THE OPEN ROAD

How easy is it to live with an electric car? Spencer Hart spends three weeks with the futuristic Jaguar I-PACE to find out

We were so impressed after first driving the Jaguar I-PACE, we gave it a prestigious *T3* Award, declaring the car “one of the best looking and best handling electric vehicles on the road”. Now we’re back behind the wheel for a long-term test to see how well the electric Jag fits into everyday life.

It was easy to get reacquainted with the cabin – it’s a luxurious place to be, with eco-friendly materials and exquisite attention to detail. It perfectly demonstrates Jaguar’s no-compromise attitude. This is mirrored on the road, where the I-PACE

handles whatever we throw at it. It’s comfortable on motorway journeys, relaxing in a city, and engaging on country lanes.

Charging is becoming easier now, with more charging stations appearing around the UK. Once the battery dropped to critical level, we searched Zap Map ([zap-map.com](http://zap-map.com)) for the nearest charger. A quick refill at an Instavolt station requires a simple tap of a contactless debit card to start the process.

Electric cars are becoming easier to live with, and if you’re looking for the best one, right now you can’t beat the Jaguar I-PACE.

### HELPING HAND

## INVISIBLE TOUCH

Driving is about to become more enjoyable thanks to cutting-edge Matrix-like auto tech

Nissan has created a new technology that it jokingly said is “like The Matrix”. This ‘Invisible-to-Visible’ (I2V) tech enables people from anywhere in the world to ‘appear’ in your car. During the Nissan Intelligent Mobility ([nissan.co.uk](http://nissan.co.uk)) demo, a driver wearing AR goggles looked to their right to find a driving instructor ‘sitting’ in the passenger seat. Future use of this tech could include tour guides being beamed into people’s cars. Since the experience takes place in real-time, drivers can ask questions and even make requests of their AR co-pilot.





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## BACK- PACKING ESSENTIALS

### BOSE NOISE- MASKING SLEEPBUDS

Get some quality shut-eye when backpacking with Bose's rechargeable Sleepbuds, pre-loaded with soothing sounds to mask external noises without distracting you from sleep. Set an alarm (via the Bose Sleep app) to play through the Sleepbuds to avoid waking others.

**£229, [bose.co.uk](http://bose.co.uk)**



### LIFESTRAW STEEL

Paranoid about drinking contaminated water while backpacking around the world? Dip the slimline Lifestraw Steel into your water source and it will filter out 99.9999 per cent of water-based bacteria, helping you stay in good health.

**£30, [lifestraw.com](http://lifestraw.com)**



### ANKER POWERCORE 20100

Any backpacker worth their salt wouldn't leave home without a decent powerbank, and this lightweight model will win over the heavy tech users among you. It supports high speed charging, and juices phones, tablets, action cams and more.

**£34, [anker.com/uk](http://anker.com/uk)**



GET AWAY

## HALF-TERM MINI BREAKS

Sizing up the best child-friendly activities and places, from a close encounter with an iconic flying car, to a real dinosaur bone hunt

2019 marks the 70th anniversary of the Countryside and National Parks Act, which led to the creation of the UK's national parks. To celebrate, head to the most child-friendly park of them all, Exmoor National Park. Little ones can sign up for craft workshops, guided walks and 'pips to plants' gardening sessions.

Did you know that *Chitty Chitty Bang Bang* turned 50 last year? Celebrate with a visit to Beaulieu, a motoring museum that recently unveiled a Chitty exhibition, which runs until November. Exhibits include cars and costumes from the film (under fives go free, general admission from £12.50, [beaulieu.co.uk](http://beaulieu.co.uk)).

Further afield, British Airways and EasyJet recently launched flights to Lyon, one of Europe's most child-friendly cities. Highlights include the Tête d'Or Park, with its carousels and boat lake, and Aventures Fourvière (from £10, [france-aventures.com](http://france-aventures.com)), an outdoor jungle gym a short walk from the Nôtre Dame basilica.

Finally, 2019 is also the 75th anniversary of the Council for British Archaeology, making it the ideal time to visit the Isle of Wight, aka the dinosaur capital of Great Britain. One of the best spots for fossil-hunters is Compton Bay, where visitors regularly find dinosaur footprints and fragments of dino bones.

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# 2 GREAT READS!



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## EASY WAYS TO FEEL HEALTHIER

### NUTRI NINJA BLENDER WITH AUTO-IQ

Ensure you eat plenty of fruit and veg by blending them into a nutrient-packed smoothie. This blender from Ninja promises to extract all of the vitamins from your ingredients.

A 1,000-watt motor and patented Pro Extractor Blades promise no more lumps, no more waste.

**£66, [ninjakitchen.eu.uk](http://ninjakitchen.eu.uk)**



### PHILIPS SOMNEO SLEEP AND WAKE UP LIGHT

For a better night's sleep, upgrade your lighting.

The Philips Somneo has a wind-down function

that uses light, sound and breathing techniques to help you sleep. It gradually wakes you up by bathing your bedroom in warm light.

**£149, [philips.co.uk](http://philips.co.uk)**



### OZMO ACTIVE SMART BOTTLE

Stay hydrated with the Ozmo Smart Bottle, which tracks your water and coffee consumption. LED lights show how hydrated you are, and vibrations remind you to drink up.

The bottle also syncs with your fitness tracker and tells you if you need more water after your workout.

**£29, [amazon.co.uk](http://amazon.co.uk)**



### WEIGHTING TIME

## THREE EXERCISES THAT BURN BELLY FAT

Becca Caddy shows you how to slim down, de-stress and improve your health with the latest fitness tech

It's common for weight to build up around your middle, but belly fat is often linked to the likes of cardiovascular disease and type 2 diabetes. Rather than do thousands of crunches, focus on exercises that'll work your major muscle groups, then vary them.

Kettlebell workouts help you lose weight and build strength. The KettlebellConnect (£329, [jaxjox.co.uk](http://jaxjox.co.uk) – see p39) is a smart kettlebell fitted with motion sensors, which help you keep track of your progress.

High Intensity Interval Training (HIIT) involves short bursts of intense exercise

alternated with low intensity recovery periods, and it's great for burning calories fast. Bring a HIIT workout to your lounge with the Peloton Bike (from £1,990, [onepeloton.co.uk](http://onepeloton.co.uk)) – it encourages you to ride along with classes 24/7 to keep you motivated.

If you don't like to work out indoors, get outside. Walking helps with weight loss and managing stress levels (which encourages weight loss). Choose shoes designed for rough terrain, such as the Inov-8 Mudclaw G 260 (£140, [inov-8.com](http://inov-8.com)) with a Graphene-enhanced sole for the best grip around.

### COOL IT

## A NEW ICE AGE

Could the current cryotherapy craze spell the end for chronic pain and fatigue?

Thanks to Cristiano Ronaldo, Serena Williams and, er, Mark Wahlberg, people are going sports-crazy for cryotherapy, but what exactly is it? In a nutshell, it involves immersing your body in a cryochamber set at -135°C for up to three minutes, which is said to have benefits such as reducing chronic pain and fatigue, and healing damaged muscles by increasing blood flow and oxygen. Keen to try it? One session at the Harrods Wellness Clinic costs £95 ([harrods.com](http://harrods.com)), or you can rent a cryochamber from CryoAction (£POA, [cryoaction.com](http://cryoaction.com)).





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# 10

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This programmable, app-controlled pressure cooker with Google Assistant support helps you switch to healthier cooking without changing your dining routine. **£116, [instantpot.com](https://www.instantpot.com)**



### CUISINART STM1000U COOKFRESH STEAMER

Place your ingredients into this and it will infuse them with steam, unsurprisingly, cooking dishes quickly and healthily. More nutrients are retained in the food this way. **£175, [cuisinart.co.uk](https://www.cuisinart.co.uk)**



### NUTRIBULLET DESSERT BULLET

Use this to blitz or whip fruit into sorbet or frozen yoghurt within moments, making it perfect for when those sweet treat cravings hit, yet you don't want to fall off the good food bandwagon. **£49, [highstreettv.com](https://www.highstreettv.com)**



GET WELL SOONER

## MANAGE FLU WITH TECH

To ease your recovery, Omar Hamwi rounds up a gaggle of smart devices that can create a wellness-centred home environment

While winter flu season often means a visit to the doctor, or weeks suffering through symptom after symptom at home, smart home tech can ease your recovery, especially with voice activated gadgets such as the Amazon Echo 2nd Gen (£79, **[amazon.co.uk](https://www.amazon.co.uk)**). Need flu pills, tissues or throat lozenges? Ask Alexa to order them.

If the postie arrives with your care package while you're tucked up in your sick bed, use the Ring Video Doorbell 2 (£179, **[ring.com](https://www.ring.com)**) to ask them to leave the parcel in a safe place until you're able to get up and retrieve it.

Heating has an impact on your symptoms and your recovery. If you're experiencing a

sore throat, keeping cooler temperatures at night could help prevent your throat from drying out; a happy throat enables you to sleep longer, aiding your overall recovery speed. The Nest Thermostat E (from £199, **[nest.com/uk](https://www.nest.com/uk)**) is great for scheduling heating both day and night, and can be controlled via app or voice command.

Finally, if you have a headache with flu, use smart lighting to dim the lights, or switch them off completely, from your phone without having to get out of bed or off the sofa. Our current top pick is the Philips Hue (from £59.99, **[meethue.com](https://www.meethue.com)**), which comes in a range of starter kits and individual lights.



# THE JOY OF TIDYING

If decluttering cheers you up, Marie Kondo style, get tidying away clothes, toys and knick-knacks into these stylish storage solutions



**1** **BUTTONS GREY OTTOMAN**  
Use this as a swish toy storage box, or place at the end of your bed to keep linens and spare pillows to hand. It can also be used in your living room to house throws, cushions and magazines.

**£360,**  
**frenchbedroomcompany.co.uk**

**2** **ENGIOI STORAGE TROLLEY**  
Storage isn't just about hiding items away – the right type can display your most eye-catching belongings while ensuring they're neatly organised. Speakers, vinyl and even bottles of booze will find a home on this trolley.

**£481, limelace.co.uk**

**3** **HOLMES STORAGE BOXES**  
Get organised instantly by moving any items you don't use on a regular basis into the Holmes nesting boxes. Funky enough to be used as a casual bedside table, and roomy enough to swallow up whatever's cluttering your room.

**£79, made.com**



**4** **FERM LIVING PEAR BRAIDED STORAGE BASKET**

A playful way to store loo roll in the bathroom, to keep toys and small tech out of harm's way when not in use, or as a stylish replacement for your tired old laundry bin. The braided rattan is mercifully wipe clean.

**£75, cloudberryliving.co.uk**





# GADGET GURU

T3's laser-guided autonomous helper solves your tech queries



**OLE BERGMANN, CARDIFF**

## Is there a truly no-effort robot vacuum out there?

**A** Robot vacuums, it is fair to say, suck. Some of them are also bad, at least on the lower rungs. A cheap robot vacuum will meander over your rug in much the same manner as Guru does with his 3AM kebab after a particularly long night – and it'll similarly eat socks because it can't quite see what it's doing. Avoid the lower end, because you will spend more time dragging things out of its stupid brushes, emptying its dirtbox, and cursing its inefficiency than you will watching your cat take an adorable little ride on it.

Mid-range vacs, starting around the £600 mark, do a lot better.

They usually have some kind of internal mapping system built in, so they learn the layout of your room and cover the whole thing rather than careening around idiotically. They're not completely self-reliant, though; GaGu's Neato Botvac D6 (£599), despite its laser navigation, frequently reverses over the kids' toys, and you still need to empty its

### ABOVE

If you could replace all your chores with nap time you'd... end up awake at 4am, probably

**A cheap robot vacuum will meander over your rug in much the same manner as Guru does with his 3AM kebab**

small dust canister with alarming regularity (Guru Towers is... dirty).

For the ultimate in robotic luxury, iRobot has finally cracked the formula by getting a bit meta. The Roomba i7+ (UK price TBC, but \$1,099 in the US) comprises a combination of the Roomba i7 vac and the Clean Base charger, the latter of which basically includes a little vacuum for your vacuum, sucking the dirt out of the roving unit. Nice as that is, Guru will hold onto his wallet until iRobot introduces a third robot which sucks the filth out of the Clean Base directly into his outside bin, then puts it out on a Tuesday morning.



**DAVID WHITE, HUDDERSFIELD**

## My TV isn't showing the whole picture. Help!



Fun fact: GaGu recently learned through experience that a major high street electronics retailer has licensed the name of a traditionally reputable Japanese electronics manufacturer to plaster on its own-brand televisions. These TVs are very, very bad. But they cost £150, and GaGu Jr can't yet tell the difference, so we'll not start naming names. Guru was reminded of this because his offspring's personal TV (amongst its many foibles) slices a good few pixels from the edges of the screen, and even his team of boffins hasn't yet worked out how to do anything about it.

You, reader, likely have a slightly better TV. If you're losing part of your picture, there are few things to try. First, make sure you're feeding the right signal into it; check the settings on your cable box, your games console, your streaming box, or whatever you

have plugged in, and make sure you match both resolution and frequency with a supported mode on your TV.

Dig into your options, and ensure you're not viewing in a 'zoom' or similar picture mode. Even 16:9 might not be the right mode for you; pick the 'match source' mode, or whatever your TV labels it. Still not fixed? Sift through your menus and look for options surrounding overscan, and either switch it off or adjust the values until everything fits nicely.

If there's no overscan menu to be seen, you might want to play with GaGu's favourite: the service menu. It's a hidden menu found in most TVs, generally reserved for actual technicians to use to diagnose and fix faults: you may break something, so be careful, but googling your TV model number should lead you to the right combination of remote buttons to get you there.

**ABOVE**

Folding phones are just a matter of months away. Maybe even good ones...

**SIMON KENDALL, RICHMOND**

## Foldable, rollable – are my current screens obsolete?



Sometimes it feels as if CES (that's the Consumer Electronics Show, for the uninitiated) is just a tool specifically designed to terrify us into thinking we're behind the curve. Foldable phones like the Royale Flexpai, LG's rollable Signature OLED TV R, the transparent Samsung Window TV, 8K everywhere – they're little glimpses into a future that sometimes makes GaGu want to rip his current screen off the wall and toss it straight in the bin.

That's the thing with curves, though: they're curvy. GaGu will charitably put you, dear reader, right next to him, driving that curve gracefully, while this brand new tech has come out of the gates so hard it's careened off it and ended up embedded in the trackside barrier. It'll catch up with you, but it needs some time to bolt its wheels on first.

## GADGET GURU'S MAGIC BOX

The fight against the flea menace in Guru Towers continues, and teaches GaGu a little something about the perils of buying gadgets blind. Buoyed by Amazon reviews including phrases like 'have caught many hundreds of fleas' and 'after 7 days there were a horrifying 135 stuck in there' (nice counting) Guru picked up the seemingly magical Big Cheese Flea Killer (£14). It's a super-sticky pad with a little light bulb above that convinces the fleas it's the warmth of an animal, and it works really well. If only GaGu had read the other comments ('Be careful an inquisitive cat doesn't get stuck to it... There will be blood. Probably yours.') he might have saved himself some wounds.



On to Microsoft's Windows 10 S Mode, then. Your favourite gadget uncle happens to actually quite like the highly restricted Windows Store-only mode, particularly in the context of stopping

his laptop-toting kids doing something they shouldn't. Add in Microsoft's OK-ish family controls, which spy on your youngsters, block troublesome sites and deny them screen time based on the hour, and you've got a combo that actually makes sense for junior computing.

Speaking of, the Kano Computer Kit Touch (£280) is a cool way to get those developing brains interested in the technical side of computing. You get the components, based on a Raspberry Pi, required to build a tablet, and then the encouragement to use that tablet to cook up cool experimental code. GaGu Jr is a real fan. And when he's done with it, Guru will pull out the Raspberry Pi and turn it into something otherwise useful – a network-wide ad blocker running PiHole, probably.





NEW MEDIA

## NOW PLAYING

Guru finds the finest media you need on your various screens



### NIGHTFLYERS

Netflix science fiction space spooks based on a George RR Martin novella – less *Game Of Thrones*, more *Game Of Thrones*, more *Game Of Thrones*. What Is That Thing And What Does It Want.



### DREAM PLAZA

Mélonade's neat album imagines a world where we are all trapped in a mall. Thankfully, it's a bouncy, glitchy mall with some of the smoothest muzak going.



### SLAY THE SPIRE

Guru's daily Steam game of choice: climb a tower, build a deck of deadly cards as you go, and use them to beat up monsters. Properly addictive, and brilliantly balanced.

**Q** JADE TANNER,  
CAMBRIDGE

## What's the best Blu-ray setup?

**A** The real question is which metadata-rich video format you opt for, be it Dolby Vision or the almost-ready HDR10+. The former works with 12-bit colour (HDR 10+ only does a paltry 10-bit) and the metadata it depends upon is painstakingly created by hand by professional colourists at studio level. HDR10+, on the other hand, has its metadata cooked up by a vice-free robot using an upscaling algorithm, making it much easier to produce. So get yourself a player that supports both, like the superb Panasonic DP-UB9000EBK (£850). This means that even if your TV only supports one now, when you upgrade it, you're ready for any amount of exciting metadata.

**Q** MIKE DAVIES,  
CHESTER

## How do I get more mileage from my car?

**A** There are so many mechanical things that could affect your car's efficiency, but here's a few things: replace your air filters and spark plugs; pump your tires up to the correct pressure for your load; reduce that load wherever possible; always use the correct oil.

In terms of your driving, use the pulse and glide technique, where you accelerate hard to the speed you need to go (which helps your engine work closer to its maximum efficiency) then coast for a while before repeating the process. On the motorway, stick as close to 60mph as you can, and use cruise control to keep yourself from going gung-ho with your right foot.

On the motorway, stick close to 60mph, and use cruise control to keep yourself from going gung-ho with your right foot



**ABOVE**  
Turn your whole house on and off with a smart button; great for arguments with the kids

**Q** KAY LAURENCE,  
PERTH

## What can I do with a smart button?

**A** With the tiny bluetooth-based Flic button (£30) you can do a whole host of phone related shenanigans through its over-enthusiastic app, while Logitech's Pop button (from £35) does a little less but is also less likely to get swallowed by a child.

Look for HomeKit integration (the version of the Pop sold through Apple's store, a Hue switch of some kind, or the £55 Fibaro button) if you want to trigger scenes and automations on Apple's platform – Guru would suggest not relying on a button to fire off IFTTT applets, because it's very slow and unreliable recently. Who knows why.

Don't miss another instalment of the legendary Gadget Guru!

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See p52





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# Duncan Bell has square eyes

How the hell are you meant to buy a TV when they're all really good? Let me guide you...

**T**here's something ever so satisfying and yet oh-so aggravating when it comes to the – boringly consistently excellent – state of tech today. Nowhere is that more evident than in the world of television. Sweet, sweet 4K (or maybe 8K), HDR, motion-smoothed, thin-bezelled TV.

We've just had CES and a few more European-centric telly showcases and I think it's fair to say that this has been the best year ever for new TVs.

This is great news for all of us in many ways, but on the other hand is it, really? If we've got £1,000-£3,000 to splash on a gogglebox, bountiful riches await... but which of the enticing lovelies do we opt for?

This is a fantastic time to buy a TV because all the most important new technologies are now well entrenched. Over the last few years, the early adopters have squandered their cash on experiments, as usual. Consequently TV makers have been able to continue to develop new image and sound-boosting tech, from HDR and OLED to in-home Dolby Atmos. Now, us normal people can reap the benefits.

## Smooooooth

The problem with this is it makes it harder than ever to choose which new television to buy. I think I could break it down thus: Samsung is best if you want a bright TV you can see in daylight. Panasonic is best if you want something more 'cinematic' – a hard term to define, but I hope you know what I mean. LG and Sony are arguably the best all-rounders. Philips, interestingly, is often considered best by 'AV purists' and its TVs are generally jolly good, but the way they insist

on turning their motion smoothing up to 11 in demos does put me off a bit. And after that you have the likes of Toshiba and Hisense, who make similarly amazing TVs but for less money.

What screen you think looks best is pretty subjective, and a lot of the time, the customer service guys in shops will recommend the ones they like personally or the brands that pay them the most commission. So that's tricky, but on the plus side, above about £800, all LCD and OLED panels are broadly pretty similar, and all very good.

So my advice would be to focus on near-future-proofing yourself as much as possible.

Pick a screen you like the look of, but make sure it has support for

## Most punters still don't even really know what 4K is, never mind its upscaled big bro, 8K

Dolby Vision, HLG and HDR10+ as well as the bog-standard HDR10.

Audio-wise, looking for something that can process Dolby Atmos *might* be useful, but it's worth bearing in mind that to take full advantage of Atmos's 'vertical' sound elements you'll still need an external system in most cases. If you want to use DTS – a home cinema sound system that many people deem superior, and which remains the only surround option

on a weirdly large number of Blu-rays – you'll almost certainly need an external system.

Realistically, 8K is all very lovely, but it's not something you really need. There is next to no 'native' 8K content – the UK's broadband services can only just deal with 4K and nobody is going to be broadcasting in it any time soon. Come to that, most punters still don't even really *know what 4K is*, never mind its upscaled big bro.

Look at the HDMI inputs – mmm, yes, this is all sexy stuff. Ideally you want four of them at least, and you want them all to be able to take 4K HDR sources. That could become useful sooner than you think.

Perhaps most importantly when viewing a new, premium TV in the shops, ask to see something on it that you'd *actually watch in real life*. TV shops are very keen on showing Hollywood FX bonanzas with all the image smoothing and vividification settings dialled up to 11. Or, even worse, specially-shot demo footage, usually involving people dancing somewhere exotic whilst having paint powder blown over them in extremely slow motion.

Try watching some broadcast TV on it, or sport, or a movie you love, with the settings on a more 'normal' level. You might be surprised at how different it looks.





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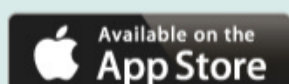


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ALSO ON





# 2019's GADGET WISHLIST

Meet the year's most exciting new tech and discover how it will supercharge your entire world! We've got smart sneakers, Dolby Atmos kit, talking toilets (yes, really) and much more...

Words: Matt Bolton







### Asus ZenBook S13

Asus is pioneering the 'reverse notch' here to keep bezels thin while also still fitting a camera in a useful position. The result is a 97 per cent screen-to-body ratio display, with a small rise above it for the snapper. Truly, it makes the 13-inch, 1920x1080 screen look super-cool. Elsewhere, quad-core Intel processors in a light (1.1kg) body mean this is shaping up to be a great portable workhorse, with the good looks Asus is known for. The ZenBook S13 should be out in the next few months. No price has been announced yet, but expect it to push towards the £1,000 mark. **£TBC, [asus.com](http://asus.com)**



### Foldimate

While we'd prefer someone had invented an ironing robot, a folding one is better than nothing. Keep t-shirts (and shirts, towels...) much neater than your own folding skills can manage with this cabinet-sized box. Quite simply, you place clothes in and get perfectly folded clothes out. The current version won't save you loads of time because you have to feed it manually, but it will make things look better and will probably fold much faster than us. Foldimate is aiming for a price that comes in under a grand, and hopes to be handling your laundry in late 2019. **£TBC, [foldimate.com](http://foldimate.com)**



### Mui Smart Wood Block

If a smart home product wants to sit prominently in your home it has to look good, and these finely cut wood blocks (in different finishes) do just that. They also act as smart displays, showing useful information such as the current weather, date and time, or loads more options. They even house buttons for easy smart home control, such as tweaking the temperature. We can imagine having one in the front hall, for glancing at info when you grab your coat, or for turning lights on when you come in. It had a successful Kickstarter and is heading to Indiegogo for future orders. **\$399 (£303), [mui.jp](http://mui.jp)**



### Withings Move ECG

Having become part of Nokia, and now back to being its own company again, Withings is still making some damn good-looking mechanical watches with smart extras. As well as activity, sleep and swim tracking, this also includes an ECG, just like the Apple Watch Series 4, so you'll be able to detect the abnormal heart rhythms of atrial fibrillation (bringing a big feature of Apple Watch Series 4 to non-Apple users) and get help from a doctor if needed. A 12-month battery life is also music to smartwatch-users' ears. Expect it to arrive near summer. **£129, [withings.com/uk/en/](http://withings.com/uk/en/)**



### AtmosControl Smart Home Hub

How about a smart display that can control pretty much everything in your house with voice, touch and gesture control? No more figuring out how to get everything talking to each other – this screen handles it all, thanks to Wi-Fi, Bluetooth, Zigbee, Z-Wave and Infrared support. It's confirmed to work with Nest, Ring, Sonos, Samsung's SmartThings platform, and 1,000 more devices. It sits behind an HD screen, with a quad-core processor keeping it fluid to use. The Hub should land in the US in spring, and we're currently waiting on confirmation of a UK launch. **\$299 (£227), [atmoshome.com](http://atmoshome.com)**



### Acer Predator Triton 9000

This 17-inch beast has a screen that folds up in a way that makes it feel more like a portable all-in-one as opposed to a gaming laptop – there are shades of the Macintosh Portable here. It's massive, metal, heavy, and supremely powerful. Advanced fans mean Acer has been able to pack in cutting-edge Nvidia RTX 2080 graphics, a lush 4K screen with G-Sync, six-core processor and 32GB of RAM. Yep, this is pretty much a workstation. There's even a full mechanical keyboard and keyboard offset to the right, so that it's actually ergonomic (for right-hand users, anyway). **€4,199 (£3,644), [acer.com](http://acer.com)**





### JaxJox KettlebellConnect

Oh, you thought a lump of metal couldn't be smart? You underestimate the tech world! There are two clever parts to this kettlebell. First is the design, which makes it easy to adjust the weight using buttons on the base – when you lift it, it'll be just right, leaving behind any weight units it doesn't need (it goes up to 19kg). Secondly, it tracks your workouts, sending info about reps, rest time, weights used and more to your phone. This helps you track your progress over time.

£329, [jaxjox.co.uk](http://jaxjox.co.uk)





### Drinkshift

This is it. The dream. A fridge that restocks itself with your favourite beers (up to 13 bottles) before you've even run out. Well, you have to put the actual beers in it, but based on your consumption rate the fridge will put the order in without you having to get involved, aiming to make sure the delivery gets there before it predicts you'll run out of bottle. Even better, the fridge itself is actually quite handsome. The wood finish and black or white back are sharp, and there's space inside the Drinkshift for you to keep a glass cool alongside your beer, so you get a fully chilled experience.

£TBC, [drinkshift.com](http://drinkshift.com)



### NuraLoop

The original Nuraphone came down firmly in the 'crazy enough to work' territory, mixing in-ear headphones with over-ears all in one package, for giving you the ultimate in noise cancellation, and also personalising its sound to the specific intricacies of your ears, so you'd hear everything exactly as intended. Now here's Nuraloop, with the same adaptive tech for tuning the sound (and still with active noise cancellation) but in the form of more regular in-ear headphones, with a behind-the-neck cable loop. There's no news on price or availability yet, but these could be seriously good.

£TBC, [nuraphone.com](http://nuraphone.com)



### Kohler Sensate Faucet

This smart tap can be activated using voice control via Alexa or Siri, so you can just tell it to "turn on", which is great for maintaining hygiene when your hands are covered in raw chicken juice. Handier still, you can tell it to dispense a specific volume of water, so no more fiddling with getting the amount in your bowl or mug just right. For those of you who don't fancy talking to your kitchen tap, the Sensate Faucet also has integrated movement sensors. A wave of your hand is all that's needed to turn it on or off. The tap even tracks your water usage, displaying results in the Konnect app.

£TBC, [kohler.com](http://kohler.com)



### Simplehuman Sensor Mirror Hi-Fi Assist

The sunlight-mimicking light mirrors by Simplehuman are already a dressing-room staple, but this new model has speakers built into the base. That means you can play music from it while you get ready, as well as using Google Assistant to catch up on what you need to know. We love the efficiency here: instead of taking up lots of surface space with a bunch of different products, you could kill all those birds with one highly reflective stone. A cheaper version (\$350/£265) with the speakers but without Google Assistant will also be available. It should arrive in May.

\$400 (£303), [simplehuman.com](http://simplehuman.com)





### KitchenAid Smart Oven+

KitchenAid is going big on 'smart' this year (it's also launching an Echo Show-like display with recipe integration), and this oven is really cooking our goose. The 4.5-inch screen makes it easy to set how you want to cook (even remotely, via the app), and you can control the culinary action with Alexa or Google Assistant. The Smart Oven+ also comes with a series of powered attachments, each of which plug into a hub inside the oven. There's a nifty barbecue-like grill attachment, a steamer and a baking stone. We're not sure about the price or when the oven will come to the UK, but our tastebuds hope it's not far off. **£TBC, kitchenaid.co.uk**



### SportsArt G690 Verde

Finally, the ability to power gadgets with your body, just like in *The Matrix*! Okay, maybe we're misremembering the film, but this treadmill does turn your efforts into electricity, claiming to generate up to 200 watts per hour as you run. A mid-level laptop takes about 65 watts, so that's not bad at all. And though it won't exactly get you off the grid, a whole wall of them at the gym could make a real impact. More importantly, the SportsArt G690 Verde looks like a good treadmill, with run or push modes, plus readouts for various metrics. You'll see it in fitness studios sometime this year. **\$9,750 (£7,407), gosportsart.com**



### Y-Brush

Is the four minutes per day cleaning your teeth really eating into your down time? The Y-Brush can do it in 10 seconds, using half a mouthful of brushes at once, along with sonic tech designed to clean under the gum line and not just on your pearlies. Simply place it in your mouth, kind of like a gum shield, and let it do its thing. The 45-degree brush angle follows dentists' advice for best results. We think it'll find most use with kids or for adults with conditions that perhaps make regular brushing hard. That said, it might also be better at cleaning your teeth than you are. The Y-Brush is available for pre-order now, with shipping estimated to start in April. **\$189 (£143), y-brush.com**



### SquareOne

This is a 'board game console', using a 19-inch screen alongside compatible game components to react and respond as you're playing its specially made tabletop games. The SquareOne can actually adapt the games during play using AI, to help younger players keep up with more experienced ones, and can even record playthroughs for viewing later. You'll place pieces directly on the screen, and put cards and other parts in squares around the edge, transforming it for each game – NFC and Bluetooth are used so that it detects the components. The only question remaining is: will the games be good? **\$499 (£379), wizama.com**



### Netgear Orbi RBK50 Series (2019)

The new version of Netgear's brilliant Orbi Wi-Fi setup uses Wi-Fi 6, which is a new name for the standard formerly known as 802.11ax. Basically, this is next-gen Wi-Fi. It's designed around maintaining lots of high-speed connections simultaneously better than older tech, making it ready for the homes of the future where everyone's streaming 4K football, HDR movies and Fortnite 2 at once. It's very much a case of future-proofing, but we don't see anything wrong with that. Especially when it won't be out until late this year. **£TBC, netgear.com**



### Arlo Security System

Arlo's smart security cameras are already top notch, so now it's expanding the system with new extras that work seamlessly with the cams. The new multi-purpose sensor does motion, smoke, carbon monoxide, water-leak and door-breach detection, making it a hell of a multi-tasker. The siren can play TV-like audio to put off prowlers, mimic a dog barking, or just blare out. There's a remote for control, and each item connects to a new hub that helps them work seamlessly with Arlo cameras. Expect to see this system around halfway through 2019. **£TBC, arlo.com**





### HP Omen X Emperium 65 Big Format Gaming Display

It's been a full year since Nvidia announced 'BFG' displays. Basically, these are telly-sized screens packing in the best tech of gaming monitors, so they're ideal for hooking up a PC and getting console-level lean-back gaming but with the ultimate visuals. Now, here's the first: HP's screen is 65 inches of viewing pleasure, with 144Hz refresh rates for an instant response, and G-Sync for making sure 4K games look buttery smooth. HDR is supported in the form of HDR-1000, a PC-focused format that's sort of equivalent to UHD Premium specs on TVs. **£3,499, hp.com**



### IOGEAR Ultra-Fast 60GHz Wireless 4K UltraHD Video Extender

This isn't the sexiest product (though it's surprisingly cool-looking for an AV connection), but we want it more than almost anything else. It's a wireless 4K HDMI connection, basically, so you can stick your Blu-ray player/games console/PC/whatever somewhere in the room, and beam full-quality, live Ultra HD video from it to your TV, no cable required. Finally we can all achieve the minimalist, cable-free apartments you see in all those lifestyle TV pictures we feature in *T3*. It's due in early 2019 in the US. **\$249.95 (£190), iogear.com**



### Kohler Numi 2.0

Do not adjust your sets: yes, this is an Alexa-capable toilet with surround sound speakers built in. That may sound frivolous, but there's far more on offer here: the Kohler Numi 2.0 also has low-level lighting and automatic lid opening and closing (good for night trips to the loo), as well as heated seats, a warmed water cleanser and dryer (which you can set at levels for your preference), and an auto-flush. And hey, being able to ask Alexa to order more toilet paper while you're remembering is not NOT handy. We're not sure that Kohler's description of the toilet as "fully immersive" is exactly what you want from a loo, mind... **\$7,000 (£5,318), kohler.com**



### Ninebot GoKart Kit

The Ninebot Minipro is a cool little personal mover from Segway, with two wheels that you stand on and lean to move. But this new add-on asks: what if it was a go-kart instead? No need to wonder, as the Ninebot inserts into the back, becoming the rear two wheels of the go-kart, which you otherwise sit in and steer like normal. With acceleration of 0.7g, you'll really feel the power as you pull away in the... personal go-kart track we guess you have for this? Or your driveway. A driveway would work. **£699, segway.com**



### LavvieBot

You'll have to devote a lot of space to this washing machine-sized cat litter box, but it'll take all the hassle out of cat poop, and who can argue with that? It auto-cleans the bad stuff out of the litter using a comb-like 'separator', then tops up what's left from a 6.5-litre supply, so your cat always has a nice patch to dig in. You won't need to empty for over a fortnight in a one-cat household, made possible partly by a built-in deodoriser. It's recommended for no more than three cats per unit, and suitable for any breed except big 'uns like Maine Coons and Savannah Cats. It's set to hit Indiegogo in May. **\$379 (£287), lavviebot.com**



### 37 Degree Smart Shoe Cabinet

This relatively new company is specialising in smart furniture, and from its forthcoming line-up (it should be available in the US by the time you read this), the Smart Shoe Cabinet impressed us the most. While it looks like a standard (yet nice) sideboard, a clever touch panel on top enables you to control the temperature and humidity to ensure your shoes are dry. A sterilisation and deodorising system keeps your kicks super-fresh. The Smart Shoe Cabinet even provides footwear recommendations in relation to the weather forecast. **\$699 (£531), 37smarthome.com**





### Sony LSPX-S2 Glass Sound Speaker

Looking like a modern update on an oil lamp, this speaker delivers crystal clear (sorry) sound in 360 degrees using similar technology to Sony's brilliant 'Acoustic Surface' system on its TVs. The entire glass tube at the top acts as the tweeter, vibrating to create detailed audio. That's paired with a 35mm mid-range driver and bass radiator for big sound at the lower end. You can change the brightness of the light, and it has a 'candlelight' flickering mode, plus eight-hour battery life, and Bluetooth and Wi-Fi connectivity.

£550, [sony.co.uk](https://www.sony.co.uk)





### Anker Roav Bolt

We have seen lots of solutions for bringing Alexa to the car, but not so many for Google Assistant. That changes with the Roav Bolt. Anker's newcomer is an in-car charger (sporting two USB ports powered from the usual 12v car socket) with Assistant built in. It can work with your car's audio easily for playing music and hearing information, thanks to support for both Bluetooth and aux output. It's small, but still packs in twin mics for reliable voice recognition even on noisy streets. The Roav Bolt hits the US this month, and here in the UK soon after. **\$50 (£37), [anker.com](http://anker.com)**



### Nike Adapt BB

Ever since Marty McFly visited 2015, power laces have been the coolest tech in shoes... but now Nike has gone one better. The Adapt BB not only include power laces, the fit is adjustable using an app. For example, you can keep them slightly looser for walking around town, then tighten with a tap when you're ready to jog. The BB in the name indicates that these are designed for basketball, and even though we haven't played since school, we're still in love with the look. The sneakers have been tested against water and humidity, so they should stand up to any weather. **£299, [nike.com](http://nike.com)**



### Miracle-Gro Twelve

Make a smart plant-growing system a regular part of your home with this all-in-one system. Built for cultivating greens and herbs no matter the climate, you plant things in its four pots, then use the app to control how much light they get from the built-in beamers, and how much the auto-watering system hydrates them. We really love how the Miracle Gro-Twelve has been designed as a side table, so it should slot right in with your furniture while adding a pop of natural colour. It's out now in the US, so we hope to see it here soon. **\$299 (£227), [miraclegrotwelve.com](http://miraclegrotwelve.com)**



### Lenovo Smart Clock

Like the idea of Amazon's Echo Spot but want Google Assistant instead of Alexa? Lenovo had the same thought, and it also has the tech to make it happen. The Smart Clock is a small screen capable of showing some easy-to-read information about the day, and acts as a bedside clock with Assistant voice control built in. The fabric outer case hides a more powerful speaker set than you'd expect, and you can stream to it over Chromecast, so while it won't replace a good speaker, it'll do the job. Set to launch in the US this spring. **\$79 (£60), [lenovo.com](http://lenovo.com)**





### Sony HT-X8500

This soundbar's 2.1-channel speaker system sounds like a full 7.1.2 Dolby Atmos rig once it's been through Sony's incredible audio processing, giving you the feeling of sound behind and above you. The HDMI passthrough is fully 4K and HDR compatible (there's one in and one out), plus there's Bluetooth, so you can use it as your living-room music speaker. All that, for this price? Assuming it can come close to the promised effect (it doesn't have any upfiring speakers, so the Dolby Atmos impact could be limited), this will be the living-room buy of 2019.

£350, [sony.co.uk](http://sony.co.uk)



### Jabra Elite 85h

Jabra's had a great recent run of headphones, so keep your eye out for these in April. The Elite 85h are over-ears specialising in big battery life, promising 32 hours even with the adaptive noise cancellation turned on, which is, quite frankly, a mind-blowing figure. The noise cancellation is AI powered, using eight mics around the headset to cut noise effectively, and it has different settings for when you're commuting compared to in the office. We're hyped about these, but at this price they're in rarified company, such as the triumphant Sony WH-1000XM3.

£280, [jabra.co.uk](http://jabra.co.uk)



### Cambridge Audio Alva TT

With over 50 years' experience making cutting-edge hi-fi, it's no surprise that Cambridge Audio is bringing us the first Bluetooth aptX HD-enabled turntable, meaning you can stream that gorgeous vinyl sound wirelessly and losslessly to your aptX speakers. The Alva TT is designed to be beginner-friendly, too, with a preinstalled moving-coil cartridge, a lightweight single-piece tonearm, and a built-in phono stage. As such, you can plug it straight into your amp if you're going with a more traditional set up. The turntable will be out in April, and we can't wait to review it.

£1,500, [cambridgeaudio.com](http://cambridgeaudio.com)



### Hupnos Sleep Mask

How about some tech that could save your relationship? Or, at the very least, save you from miserable mornings following a bad night's sleep? Hupnos is an eye mask you wear to bed if you struggle with snoring. When it hears you revving up that chainsaw and rattling those windows, it'll vibrate gently to encourage you to change position. The mask shape itself also helps to keep your airway more open. The device connects to your smartphone to track data, giving you insight into your sleep trends and what affects your quality of sleep.

\$179 (£136), [hupnos.com](http://hupnos.com)



### Lockly Secure Pro

How many ways are there to unlock a smart lock? It's not a philosophy question, and in the case of the Lockly Secure Pro, the answer is five. Access your home via fingerprint scanner, keypad code (using a system where the buttons show random collections of numbers, so if someone is watching they can't guess your code), through the app, using voice commands with Alexa or Google Assistant (though we don't usually recommend this for smart locks), or with a good old-fashioned key. It comes in a deadbolt version and one with a handle (the latter costs extra), and is out in the US in early 2019.

\$300 (£228), [lockly.com](http://lockly.com)



### Optoma UHZ65UST

Billed as a 'smart home entertainment system', Optoma's newcomer packs everything you need for a BIG screen experience into one box. It's an ultra-short-throw 4K laser projector, capable of projecting super-bright (3,000 lumens) and pin-sharp images at up to 120 inches when placed just mere inches away from the wall. HDR10 and HLG are supported for high-dynamic range video, and built-in NuForce sound provides Dolby audio with no extra speakers required. It's also compatible with Google Assistant and Alexa, so fits snugly into a smart setup. Expect to see it in late spring.

\$2,999 (£2,287), [optoma.co.uk](http://optoma.co.uk)



# VISION OF THE FUTURE

There's some serious telly royalty arriving in 2019, with six jaw-dropping TVs gearing up to transform the way you view your favourite films and shows. These are the sets to watch...



## Sony Master Series A9G

Just six months after Sony released the A9F (which zoomed straight in as our favourite telly of the year), it's replacing it with the A9G. So what's changed other than the letters? The design. We loved the 'picture frame' structure the TV had before, with a leg at the back keeping it upright, but it did mean the display leant back slightly. A more traditional central foot now keeps it straight, but none of the fantastic tech has been lost. The OLED screen is one of the best we've ever seen, and the X1 Ultimate Processor does an astonishing job of making everything look perfect – it upscales HD to 4K so well you're hard-pressed to tell the difference, smooths motion in sport so you can see every spin of the ball, and adds fantastic extra contrast to make SDR video look close to real HDR. It still has the genius Acoustic Surface Technology, which turns the entire screen into a speaker driver. Expect the 55-inch (also in 65- and 77-inches) to cost around £2k.

£TBC, [sony.co.uk](https://www.sony.co.uk)



### LG Signature OLED R

Roll up, roll up, and come see the TV of the future! When you don't need it, this flexible OLED screen rolls itself away into its own base, like some kind of upside-down blackout blind. When you're ready to watch something, it extends to its full 65-inch size. This is unapologetic futurism, and the coolest thing we've seen in years. You can also set the Signature OLED R to show only the top quarter of the screen, which displays minimal information for when you're just using it to listen to music through the impressive soundbar built into the base. That soundbar does the job for movies and TV as well, housing everything you need in one stylish unit. The screen is 4K, with HDR support for Dolby Vision, HDR10 and HLG. In terms of image quality, it should match the C8 and E8 TVs from last year, which is fine by us because they were excellent. Much like the famous Signature W Wallpaper TV, this one is all about hitting new design heights, and confirming that LG makes the coolest super-premium TVs on the planet. Roll on the second half of 2019, when this beauty should be hitting the shops.

£TBC, [lg.com](https://www.lg.com)







### LG OLED88Z9

The LG Signature R was all about pushing the design envelope, whereas the company's OLED88Z9 is the technical masterpiece. The first OLED 8K TV coming to market will be available in one size (88 inches, so big enough to make the most of those pixels), and it's the most spectacular panel we've ever seen. You can get right up close to inspect the image without noticing individual pixels, and the detail viewable in every frame is mind-blowing. That combines with the extra realism an OLED panel brings, producing wide HDR contrast that adds a huge amount of subtlety to the way shadows fall off and colours meet. On top of that, motion handling is incredible, making things look smooth without losing fine detail. Basically, it's like standing in front of an 88-inch window, but one that can show you *anything*. LG's new image processor is tuned for upscaling to 8K, since there's still not a huge amount of native content around, and though we haven't been able to get a glimpse of that feature in action yet, LG has never let us down. This looks set to be the new standard for picture quality when it comes out later this year, but you might need to sell your house to afford it.

£TBC, [lg.com](https://www.lg.com)



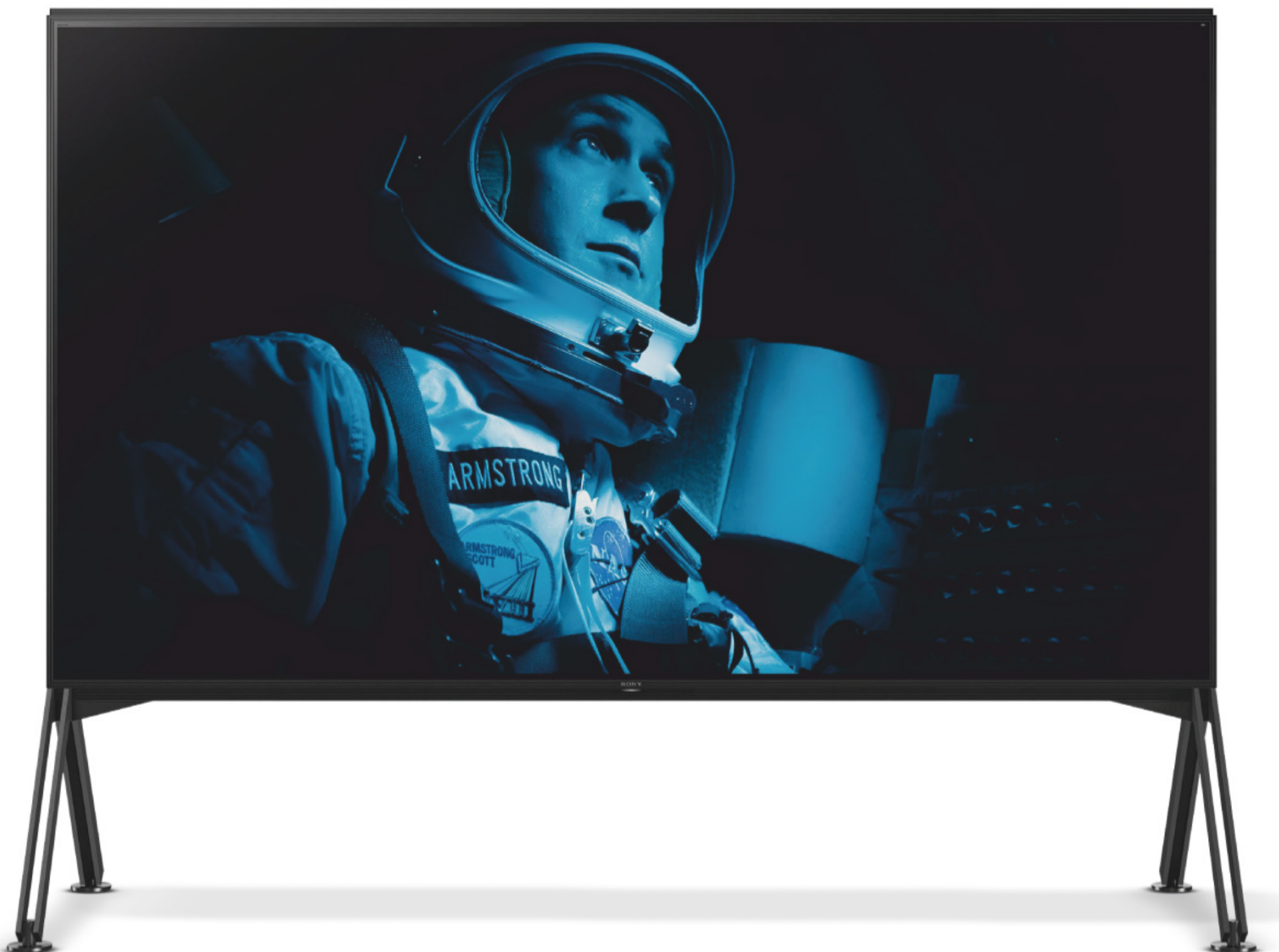
### Samsung Q900

Samsung doesn't want you to forget who the original gangster of 8K is – LG and Sony might be coming into the Ultra-Ultra HD market this year, but Samsung's 8K Q900 range has been on sale since last year and already comes in a selection of convenient sizes up to 85 inches. "But what if I want a projector-size screen without a projector?" we hear you cry. Oh, that wasn't you? Well, we definitely heard it from somewhere. So did Samsung, hence the release of a new 98-inch behemoth in the Q900 series, which gives its QLED 8K panel an even more imposing canvas upon which to wow. The same AI-based upscaling 'Quantum Processor' powers the display as the smaller models, and the screen itself should match its smaller version for having truly impressive brightness, with eye-searing HDR images. Of course, given that the 85-inch version of this TV costs £15k, we suspect few will actually stump up enough to enjoy the grandeur of the 98-inch set...

£TBC, [samsung.com](https://www.samsung.com)







### Sony Master Series Z9G

Sony is also joining the 8K party, and ironically it's bringing back some tech from three years ago in order to do it properly. The Z9G is a couple of generations on from the Z9D, which developed near-legendary status as soon as it came out in 2016 thanks to its Backlight Master Drive. Basically, it was the world's most incredible LCD screen backlight, packing in more LEDs than ever but calibrating them so that they didn't leak light into each other's pixels. The precision, brightness and contrast were *incredible*... and then Sony stopped using the tech. Until now! Its first 8K TV, available in 85- or 98-inch sizes, will use it to help manage perfect HDR images across all 33 million pixels, supported by a new 8K X-Reality Pro image processing system for upscaling into 8K. Our quick first impression is that it offers exactly what we wanted: a huge contrast range that goes from gorgeous dark black levels to stunning vibrant colours. This could take the LCD TV crown from Samsung when it lands in the second half of the year. Once again, expect a royal price tag.

£TBC, [sony.co.uk](http://sony.co.uk)



### Panasonic GZ2000

8K might be the future, but Panasonic is determined to give 4K its finest hour yet, and managed to squeeze in a couple of world firsts of its own here. Specifically, this is the first set to support both HDR10+ and Dolby Vision, the two most advanced forms of HDR, which vary the contrast settings on a scene-by-scene basis rather than setting them for the whole film. HDR10+ should be much easier to implement than Dolby Vision, so will probably become really popular in the future. Second, it's the first TV to not only support Dolby Atmos for processing, but to include upfiring speakers in the top of the set, adding 3D height channels to the sound without you buying anything extra. On top of that, Panasonic is taking its collaboration with Hollywood to a new level. How? The GZ2000 is apparently so close to being a pro-level screen, it's good enough for one of the leading colouring companies (who worked on *Star Wars: The Force Awakens* and *A Star is Born*) to use it as a reference monitor.

£TBC, [panasonic.com](http://panasonic.com)





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# Lose the laptop

Tablets have been aiming to replace laptops for some time now. With the latest batch of pro slates, we might finally be there

Words: Carrie Marshall Photography: Neil Godwin

**T**he days of scoffing at the iPad as a tool for real work have long passed – tablets are used in everything from design studios to hospitals. In most cases, anything you do on a PC you can do on a tablet... but not necessarily *everything*. While tablets are perfectly suited for many applications when given a touch-friendly interface, they're not

always perfect – and there are significant differences between the operating systems they run and the apps you can get. If you're looking at buying a new mobile computer, the speed and portability of a tablet may be tempting, but is it best for you? We'll take you through the options, so you can work out which (if any) will be your new travel buddy instead of a classic clamshell.





# iPad Pro

Apple's flagship is pricey, but oh so powerful

The new iPad Pro is the world's best tablet, and it presents power users with an interesting dilemma: not only does it outscore all but the most powerful MacBook Pros in benchmarks, but it's very similarly priced to them. The 13-inch MacBook Pro is currently £1,249 for the 128GB model; the 12.7-inch iPad Pro with 256GB – there's no 128GB model – is £1,119 (an 11-inch version is available for £919 with 256GB). The redesigned and improved Apple Pencil adds a further £119 to the bill.

The fact that a tablet has that kind of processor power and still manages all-day battery life is impressive, but

the difference from laptop to slate is in how it does things, both in terms of its shape and its operating system. An iPad Pro can be used pretty much everywhere, and the Apple Pencil makes it practical in environments where you can't type. But its operating system is a mobile operating system, not a desktop one, and that means it's limited in several key areas.

The most significant limitations are in the lack of external hardware support – for example, unlike a Surface Pro you can't simply connect an external drive to access its files – and the flexibility of workflows.

Multitasking is strong in that you can have apps side-by-side, but you can't have two windows of the same app next to each other, so no comparing two documents easily or working in two Photoshop files. File management is basic and the only way to get apps is via the App Store – no mouse support means using web apps can be hit and miss.

The iPad Pro is regularly brilliant thanks to its broad range of apps, especially for creative tasks such as video editing or illustration, and it's getting more capable with each new version of iOS. But where you hit its limitations, you often hit them hard.





## ESSENTIAL APPS

Download these apps for an altogether better life



### AFFINITY PHOTO

Full-fat Photoshop is imminent on iPad, but Affinity is basically that, now, for £19.99. It's good on iPads of all flavours but it's particularly great on the iPad Pro, where the huge amount of horsepower can be used for advanced editing.



### AFFINITY DESIGNER

Affinity Designer is the Illustrator to Affinity Photo's Photoshop, a superb vector illustration app with desktop-grade tools. The combo of Affinity Designer, iPad Pro and Apple Pencil is glorious, and great value too: like its sibling, it's £19.99.



### NEBO 2

At last count there were eleven billion note-taking apps for iPad and stylus/Apple Pencil, but Nebo stands out thanks to its astonishingly good handwriting recognition. The rest of the app is pretty great too, and it's just £7.99.



### PDF EXPERT

The £9.99 PDF Expert can handle even the biggest PDFs, with Apple Pencil support for easy annotation and signing as well as in-line text editing. It's cloud-based so you won't sacrifice much storage space no matter how much you edit.



### AUTOCAD

AutoCAD for iOS is great for mobile working and site visits. Although the core app is free, to get the most of AutoCAD mobile you'll need a premium subscription. That's currently £39.99 per year; there's a free seven-day trial.



### ROAMBI ANALYTICS

iPads can be serious business tools, as SAP's app demonstrates: it's designed to give mobile workers key data when and where they need it, and it's an add-on for enterprise IT systems. It's charged per user per month.

## ACCESSORIES

Power up your iPad Pro with any of these four delectable goodies – or all four of them!

### 1 APPLE SMART KEYBOARD FOLIO

This keyboard case is ugly as anything, but we begrudgingly accept it as a damn good way to type – the full-size keys are easy to hit accurately and offer plenty of feedback, and it has two angles for the iPad's screen. It's monstrously overpriced, though.

From £179, [apple.com/uk](https://apple.com/uk)

### 2 APPLE PENCIL (2ND GENERATION)

The second Apple Pencil boasts some welcome improvements: you can double-tap the side to control apps, it attaches magnetically and it doesn't have a top you'll lose. It's for the 11-inch and 3rd generation 12.9-inch models only.

£119, [apple.com](https://apple.com)

### 3 SATECHI ALUMINUM TYPE-C MOBILE PRO HUB ADAPTER

The iPad Pro's USB-C port opens a world of connectivity... as long as you have the right adapter. This offers 4K HDMI output to big screens, a headphone jack (otherwise lacking), a regular USB port, and USB-C port for charging.

£59, [amazon.co.uk](https://amazon.co.uk)

### 4 ANKER 30W WALL CHARGER

The iPad Pro's provided charger is 18W, but you can charge it much faster by buying a 30W plug. Anker's has 30W USB-C power (just what you need), as well as fast-charging regular USB port, so you can juice up two things at once.

£15, [anker.com/uk](https://anker.com/uk)





# Android

Cheaper than iOS, but almost as capable

Google's interest in Android tablets appears to wax and wane: its last Android tablet was the impressive but expensive Pixel C, quietly discontinued in late 2017. It's been left to third-party firms to fly the Android tablet flag, and there are also some very good pro-level ones from the likes of Lenovo, Huawei and Samsung.

Samsung's Galaxy Tab S4 is our favourite Android equivalent to an iPad Pro, and feels high quality. Its S Pen is great for note-taking and PDF annotation, and like the iPad you can add a hardware keyboard if you'd rather not type on glass. It's a

little bit dated performance-wise – its Qualcomm 835 can't compete with Apple's newer and considerably faster A12X chip – but it's perfectly adequate for everyday work and it's cheaper than Apple's top-end iPads: its RRP is £599 for the 64GB version, and it's often discounted – and that includes a pen!

What lets the Galaxy Tab S4 down – along with others of its kind – is Android itself. Android 8.1 isn't as tablet-friendly as iOS 12, and while it offers fairly slick response and useful options such as split-screen multitasking, it's all just less smooth than the iPad. The other issue is

apps: like the iPad, you don't have a huge legacy library of desktop software to use, and Android has fewer of its own apps that take advantage of the big tablet screen while packing in pro tools. However, mouse support does make it better for web apps, if you're prepared to be complicated.

Samsung's DEX desktop mode (which offers a PC-style experience when docked) is interesting, though it's also proprietary and limited in terms of the apps it can run. It's a luxury device, but even Samsung's tweaks can't disguise the OS's focus on smartphones.



# ESSENTIAL APPS

Apps to make your tablet a productivity powerhouse



## SKETCHBOOK

We've recommended this Autodesk app for Windows tablets too: it's a superb sketching app with some very good brushes and realistic textures. It's freemium: the core app is free but you can get extra bits if you're willing to pay.



## TEAMVIEWER

TeamViewer is a remote access app that enables you to remotely control a Windows, Mac or Linux box from your Android device. It's easy to use and works very well on tablets, and if it's for personal use, it's free.



## TODOIST

One of the world's favourite task-management apps is available as a freemium Android app and as a plugin for the Chrome browser, as well as for every other major platform. It's really good for managing complex or large projects.



## MICROSOFT WORD

While many apps offer Word compatibility, this app gives you the full Word experience on your Android device. The core app is free and fine for simple stuff, but if you want its full power you'll need an Office subscription.



## PHOTOSHOP LIGHTROOM CC

Adobe makes wonderful mobile apps, such as this one. Designed for pro photographers, it's a giant leap over the default camera and photos apps, and if you subscribe to the Creative Cloud you can sync across devices and the cloud.



## GOOGLE DOCS

Docs – like its companion apps, Sheets and Slides – is a downloadable version of the online Google Docs app, and it's really just a front end for the web service. That's no bad thing: Google's office apps are great, and free.



# ACCESSORIES

Soup up your Android laptop with these extra products that won't cost an arm and a leg

## 1 SAMSUNG BOOK COVER KEYBOARD

Samsung's keyboard cover fits perfectly and looks good. Unlike some third-party offerings, it also has a place to store the S Pen. You can have any colour you like as long as it's black.

£119, [samsung.com](http://samsung.com)

## 2 SAMSUNG EVO PLUS 64GB MICROSDXC

The 64GB version of the Tab isn't necessarily too small when you can double its storage for just £25. This card is fast enough for HD video, with read speeds of anything up to 100MB/s.

£25, [samsung.com](http://samsung.com)

## 3 SANDISK ULTRA 32 DUAL USB FLASH DRIVE

Need to transfer files between your tablet and a desktop without internet access? No problem – this thumb drive has both USB-C and regular USB connectors, and Android supports external storage – easy!

£24, [sandisk.co.uk](http://sandisk.co.uk)

## 4 LOGITECH K480 KEYBOARD

The K480 Bluetooth keyboard stands out in a crowded field with its clever design: it doubles as a stand for phones and tablets, so it's not limited to just the Tab S4. It's lovely to type on and pairs with three devices simultaneously.

£54, [logitech.com](http://logitech.com)





# ChromeOS

Desktop and tablet collide in Google's maturing system

ChromeOS was initially devised as a Windows alternative to power extremely cheap PCs. So what should you make of the Google Pixel Slate, which weighs in at a whopping £1,549 for the 8th-generation Intel Core i7 model plus another £189 for the Google Pixel Slate Keyboard? It's clearly Google's attempt at a Surface-style device, a super-charged Chromebook in a premium tablet body that should have a halo effect on the entire ChromeOS range.

Google's ChromeOS is no longer just the Chrome browser but a fully-fledged operating system that runs Chrome apps, web apps and

Android apps, and which enables you to run apps such as Google Docs in multiple windows. However, even on the more powerful Slates it can be very laggy; in our review of the Slate we noted its "slightly syrupy laziness" with touch or pen input.

The Slate, and other premium ChromeOS devices such as the convertible Asus Chromebook Flip (currently £499 for the C302 model, which has an Intel Core M3 and 64GB of storage) are designed for a very specific market: people who've gone all-in on Google and run Google's own apps, web apps in the Chrome browser and Android apps.

They're of particular interest to people working in or closely with educational institutions, but are far more laptop-like.

The Slate is the best option for a high-end ChromeOS tablet, and there's talk of its laggy nature getting fixed with an update, but until we see that, it remains a guarded recommendation: it could be a truly incredible balance of touch-friendly tools and desktop flexibility (especially for using web tools), but the experience isn't perfect yet. For now, the 2-in-1 ChromeOS convertibles are a better option, but they're really just regular laptops.



# ESSENTIAL APPS

Unleash the potential of ChromeOS



## ADOBE SPARK

If you'd like to share your story online but don't want to be stuck to a specific social network,

Adobe's free app is an interesting and useful alternative. It's extremely easy to put together visually compelling content and share it anywhere you choose.



## POLARR PHOTO EDITOR

Polarr is available on Android, but the Chrome version makes better use of available screen

space. It's a freemium photo editor that works offline, offers a good range of filters and enables you to create complex projects using layers and blending.



## OFFICE ONLINE

Microsoft's Chrome-specific Office app enables you to use the online versions of Word, Excel,

PowerPoint, OneNote and Sway on your ChromeOS device, and it integrates with the OneDrive cloud app. The apps are free but more powerful features require a subscription.



## EVERNOTE WEB

Evernote is a freemium note-taking app that enables you to store almost anything, including

documents, images and audio. Although largely aimed at businesses it's good for creative projects, home improvements or anything else involving a lot of information.



## TODOIST

More than 10 million people rely on this freemium app to help them get things done. It's

a deceptively simple task manager that's particularly well suited to busy lives or workplaces, with excellent filtering and apps for every conceivable device.



## EMAIL OFFLINE

You can guess what this one does. Gmail Offline is a Chrome app that allows mail to be read,

responded to, searched and archived without network access, enabling you to get on with things when you don't have an internet connection or don't want to go online.

# ACCESSORIES

Handy add-ons to bolster your Google Pixel Slate

## 1 GOOGLE PIXEL SLATE KEYBOARD

Google's keyboard has a good-size trackpad for mousing around websites and lets you put the screen at any angle, which we love, though its circular keys are a bit odd. The blue colour even looks good.

**£189, [store.google.com](https://store.google.com)**

## 2 WD MY PASSPORT SSD

With a terabyte of storage on a speedy SSD, WD's sturdy external drive is a great way to add extra storage to your Chrome device. If 1TB feels excessive, the 256GB version is a more affordable £99.99.

**£279, [wd.com](https://wd.com)**

## 3 LOGITECH M535 BLUETOOTH MOUSE

The M535 is a great option for tablet/hybrid devices: it works with pretty much any device that has Bluetooth, it gets up to 10 months from one battery and it's compact and comfortable.

**£33, [logitech.com](https://logitech.com)**

## 4 OWC USB-C DOCK

OWC's dock gives you a whopping 10 ports including Ethernet, HDMI and five USB 3.1 ports. It enables you to charge while you're connected too.

**£139, [owcdigital.com](https://owcdigital.com)**







# Windows

Microsoft invented the tablet PC, but is still chasing perfection

Microsoft was making tablets long before Apple – its Tablet PC was announced back in 2001 – but since the rise of the Surface line, it's finally challenged the iPad. The Surface Pro is very close to a laptop in terms of size and weight, but the Surface Go gives us the usability and portability we crave, with a 10-inch screen and lighter body.

It starts from £379, but that's extremely slight on power – the sweet spot is around the £500 mark, where the Go comes with significantly faster storage. The most important thing is that it comes with

full Windows, so you can use whatever apps you need – no restrictions. Well, actually, it comes with Windows 10S, which means you can only install apps from the Windows Store, but you can upgrade it to Windows Home for free for the full PC experience.

The Surface Go experience is slicker than things have been in the past for Windows tablets, but it's still nowhere near the smoothness of the iPad or Android. It's a touch layer placed over a desktop layer, and you might regularly find yourself needing to tap a button

that's way too small for fingers. But the flipside of that compromise is that you can connect a mouse and just run any software you could ever need.

In that way, there's no doubt a Surface Go, or a Surface Pro, could replace your laptop – but it does mean you're getting limitations on power from the tablet form factor, when maybe what you still need is a laptop. If you could really do with a lightweight tablet on a few occasions, but mostly need a more traditional computing option, these will work for you.





## ESSENTIAL APPS

Make the most of Windows with these top tools



### OFFICE 365

Microsoft's mighty suite is cross-platform these days, but of course its spiritual home is on Windows. It's cloud- and subscription-based; if you prefer a one-off payment Microsoft also offers Office 2019 in a range of versions.



### CORELDRAW GRAPHICS SUITE

Corel's £569 package is particularly good on the Surface Pro, where it supports the Surface Dial accessory for effortless control of your tools and brushes as well as the properties of the selected objects. It supports the Surface Pen too.



### PLUMBAGO

Plumbago is an experimental app from the Microsoft Garage, and it promises to reinvent the notebook with beautiful handwriting, realistic ink and paper, easy navigation and effortless syncing and sharing. It's a joy to use with a stylus and it's free.



### ADOBE CREATIVE CLOUD

Whether you're a web designer or a graphic designer, a photographer or a film maker, Creative Cloud sets the industry standard for creative apps and these are the full apps, not mobile versions. Subscriptions start at £9.98 per month.



### AUTOCAD MOBILE

The app formerly known as AutoCAD 360 is a mobile-focused version of the legendary CAD app, enabling you to create, edit and comment on drawings. Premium subscriptions are £6 per month or £54 a year; Ultimate is £12 monthly.



### SKETCHBOOK

Another Autodesk app, Sketchbook is a freemium illustration program with realistic brushes and textures, tons of tools and support for stylus and touch input. It's cross platform via an Autodesk account, enabling you to share across iOS, Android and Mac.

## ACCESSORIES

Kit out your Surface Go with accessories that add extra utility and features

### 1 MICROSOFT SURFACE PRECISION MOUSE

We like the way Microsoft mice feel in the hand, and the Surface Precision Mouse is a comfortable, smooth-scrolling and very precise mouse. Sadly it's quite expensive too, although you can use it to work seamlessly across three different computers.

**£99, microsoft.com**

### 2 MICROSOFT SURFACE PEN

Once again, cheaper third party devices are also available, but Microsoft's Surface Pen is designed specifically for Surface devices and feels really great to use – drawing response time on the screen is almost impeccable.

**£99, microsoft.com**

### 3 MICROSOFT SURFACE GO SIGNATURE TYPE COVER

The official Microsoft keyboard cover for the Go is prettier and pricier than most third party offerings, and as you'd expect it turns the Surface Go into a more laptop-y experience, complete with trackpad. It's available in four different colours.

**£124, microsoft.com**

### 4 MICROSOFT SURFACE DIAL

Microsoft's context-aware Dial device can be used for navigating, controlling media or adjusting tools or item properties on Surface Pro devices. It's really useful in compatible pro illustration and photography apps.

**£89, microsoft.com**



# Sonic stars

Three great sounding, great looking, high-end wireless speakers do battle for your £900 to £1,200 of hard-earned cash

Words: Duncan Bell Photography: Neil Godwin

1



## WHAT'S ON TEST...

1

### Audio Pro A40 Anniversary Edition

Celebrating 40 years of speaker-making in Sweden, this Scandi-chic panel looks as good as it sounds. It even comes with a choice of two grilles to match your furniture.

**£900, [audiopro.com](http://audiopro.com)**

2

### KEF LSX

This stereo pair of powered speakers can be connected wirelessly or with a cable and comes in a choice of cool colours. It's a scaled-down version of the T3 Award-winning LS50 Wireless.

**£999, [uk.kef.com](http://uk.kef.com)**

3

### Devialet Phantom Reactor 900

Powered by a hybrid digital/analogue amp, this packs a huge, 900W sonic punch into a very small package. The side-mounted drivers literally pulsate at higher volumes.

**£1,290, [devialet.com](http://devialet.com)**



**W**ireless speakers are well on their way to omnipresence these days, as traditional stacks of hi-fi separates find their appeal becoming more niche, like smoking a pipe, or sending children up chimneys.

While the bulk of sales may be in portable, affordable systems, Sonos has long made more premium wireless speakers, connecting via Wi-Fi rather than Bluetooth, for better audio and multi-room capability. The speakers we're looking at here are a step above even that, however. Weighing at around the £1,000 mark, these are true hi-fi-grade wireless speakers.

The relatively high-end wireless speaker market was kickstarted by Naim's Mu-so, a speaker that still looks and sounds stunning years on from its launch. It set the bar high,

but these three speakers all want to get a slice of its sweet, luxury lifestyle audio market.

To that end, French brand Devialet has served up a futuristic-looking, pulsating orb of a device, with a maximum volume described as being 'as loud as an orchestra'.

Taking a somewhat more restrained approach, Audio Pro of Sweden's A40 Anniversary Edition is an elegant, fabric-faced speaker that is, er, not as loud as an orchestra.

The UK's KEF, finally, takes an unusual approach in that its LSX is in fact not a speaker but a stereo pair of them. It may say something about the technical progress of hi-fi in 2019 that this is something of a novelty.

All of these speakers let you play audio from your favourite streaming services over Wi-Fi, with Bluetooth connectivity as a backup.





## TEST 01:

# DESIGN AND EASE OF USE

The goal here is hi-fi sound without hi-fi setup hassles, in a great-looking package

**T**EF's LSX speakers are very compact and can be easily placed on bookshelves, stands or any other surface you have going spare. There's no getting around the fact there are two of them, and you'd ideally want them placed like traditional hi-fi speakers so you can sit and enjoy their spacious and lustrous stereo soundfield at its best.

While the LSX's looks and the sound are really quite beautiful, the KEF apps (for some reason it uses one for setup and one for playing music) are less lovely. It's the only one of these three where you're likely to need a few goes in order to achieve initial connection. The good news is that once set up, Spotify users can already ignore the app entirely and use Spotify Connect. When KEF adds AirPlay 2, 'in early 2019', Apple users will be similarly set free.

There are no controls on the speaker itself but you do get a nice, old-school remote. A choice of five smart finishes is available.

Audio Pro's A40 is quite wide but easy enough to place. Its iOS app had been borked by a recent Apple software update at the time

## The Devialet is tiny, despite the enormous noise it puts out

of testing, but it proved very easy to use via Android or our older iPad which was running a slightly earlier version of iOS.

You have the choice of either streaming a range of services (notably, Tidal and Deezer) from said app or streaming via Spotify Connect or AirPlay. Handy preset buttons on top let you store internet radio stations or favourite playlists for instant recall. The look, as you can see, is purest Scandi-cool.

For outrageous sci-fi styling, married to sheer simplicity of setup, it's hard to top the Devialet. Its footprint is tiny, despite the enormous noise it puts out, and since it connects via UPnP, AirPlay or Spotify Connect rather than anything proprietary, you barely need to touch its app after initial setup. Unlike previous Devialet Phantoms, the Reactor also has basic controls on the speaker itself as a backup.

### AUDIO PRO A40



This attractive speaker can be paired with another for fuller stereo. It comes with two grilles, one light grey and one in... a darker grey

### SPECS

**CONNECTIONS** Wi-Fi, Bluetooth, 3.5mm aux in, RCA phono stereo in **AMPLIFIER POWER** Class D, 220W **FREQUENCY RESPONSE** 35-20,000Hz **DIMENSIONS** 285x390x152mm



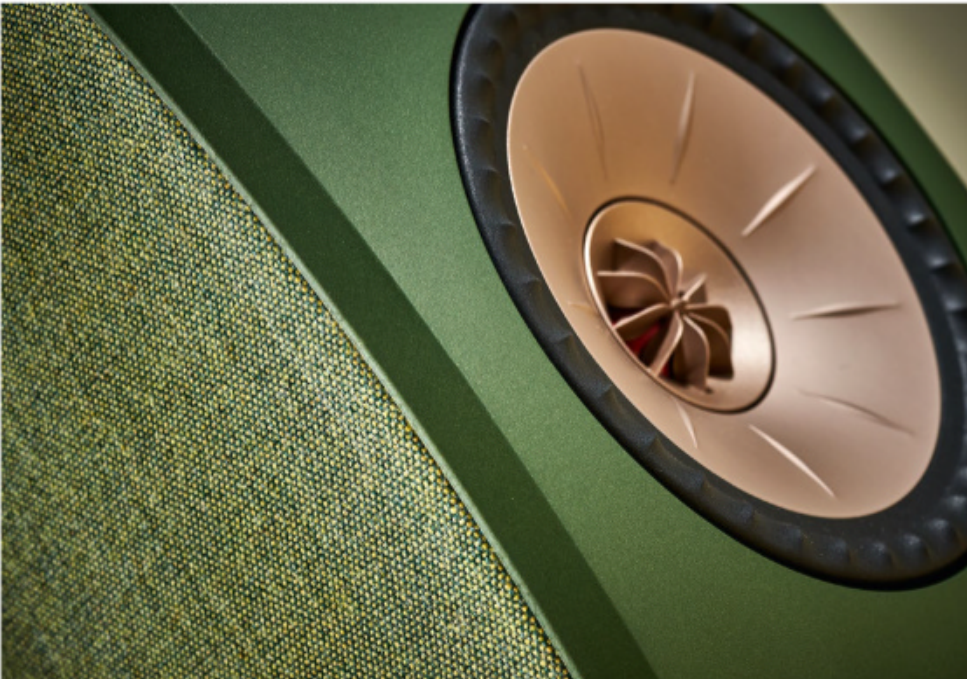
### TEST 01: WINNER

## DEVIALET PHANTOM

You can put this speaker practically anywhere and setup and ease of use are exemplary. Whether you prefer its more 'striking' look is obviously up to you – we do.



## KEF LSX



This compact and chic brace of speakers can be paired with or without a wire. The wire is only needed when listening to hi-res audio files

### SPECS

**CONNECTIONS** Wi-Fi, Bluetooth, TOSLINK optical, 3.5mm aux in, Ethernet, subwoofer out **AMPLIFIER POWER** Class D, 2x 30W, 2x 70W **FREQUENCY RESPONSE** 54-28,000Hz **DIMENSIONS** 240x155x180mm

## DEVIALET PHANTOM REACTOR



If the other two speakers here are clearly going for 'tasteful', the reactor either has a lot of wow factor, or looks ridiculous, depending on your taste

### SPECS

**CONNECTIONS** Wi-Fi, Bluetooth, TOSLINK optical, 3.5mm aux in, Ethernet **AMPLIFIER POWER** Analog Digital Hybrid, 900W **FREQUENCY RESPONSE** 18-21,000Hz **DIMENSIONS** 157x219x168mm

## FEELIN' STEREOPHONIC

IT'S FALLEN OUT OF FASHION IN RECENT YEARS BUT THERE IS STILL A LOT TO BE SAID FOR TRUE STEREO SOUND

Wireless speakers have caused one big change in the world's listening habits, and it's not really a step forward: most of them are effectively mono, not stereo. This has undoubted benefits in terms of ease of setup, as they can be placed just about anywhere, but it does make for a less luxurious audio experience. Practically all music is still recorded in stereo, and

particularly with predominantly acoustic and classical music – and prog rock, of course – it's best enjoyed whilst sat in the 'sweet spot' in front of a pair of stereo speakers, so you get the full effect. That's not how a lot of people listen to music nowadays, though – they're just as likely to be cooking or wondering about aimlessly, playing with their phones.





## TEST 02: FEATURES

How many streaming services are supported and how well do they work?

**O**bviously, there's not much point buying a wireless Wi-Fi speaker if you don't stream music to it wirelessly, via Wi-Fi.

As noted, KEF's LSX lets you use Spotify Connect and will 'soon' add AirPlay 2, but for Tidal, and the music on your phone or a home server, you're currently stuck with its app.

The implementation of Tidal is really poor. There's no access to its excellent recommendations engine, and it suffers occasional drop-outs and crashes.

However, playing music from your phone or a hard drive is relatively painless, although the app's over-abundance of sub menus is a hindrance. Spotify Connect works really well and we dare say AirPlay 2 will as well, when it arrives. There'll be no Chromecast support for Android users, however – it's UPnP only. Pro tip: the LSX is 'Roon ready', so you could just control it via Roon, though that is pricey.

The A40 works with AirPlay but again not Chromecast. The app lets you painlessly stream Tidal, Deezer and more. It's also worth noting that this is the only option here capable of true multi-room, and you can also stereo pair two of them (£1,800 to you).

## The A40 is the only option here capable of true multi-room

Devialet keeps things simple, with the app switching you between AirPlay (for iOS), UPnP (for Android, audio hard drives and laptops), and Spotify Connect. Again the lack of Chromecast means matters are generally easier for Apple fans than Google heads.

There are other connectivity options here, though they are auxiliary rather than essential. All three speakers boast Bluetooth, which sounds less good but is pretty much idiot-proof, and a 3.5mm line in. The KEF and Devialet speakers have an optical digital connection too, while the Audio Pro also includes RCA phono stereo inputs.

We'd say none of these meets the gold standard set by the Naim when it comes to streaming music in a way that's stable and user-friendly, but none of them is awful either. It's odd that none of them supports Chromecast, but there we go.

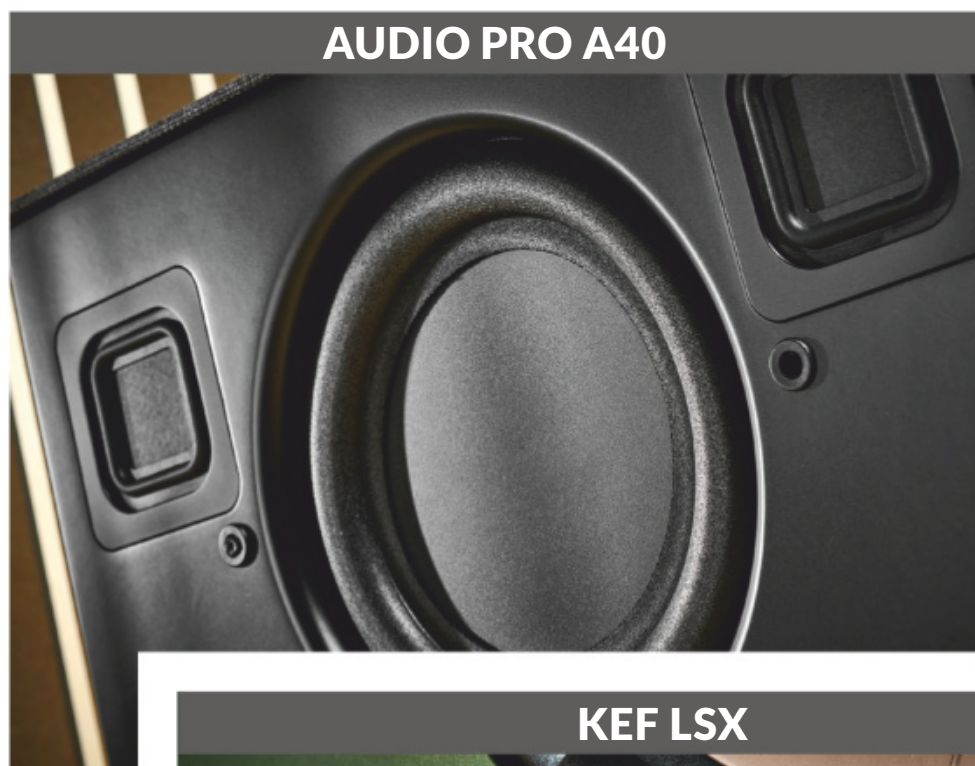


**TEST 02: WINNER**

## AUDIO PRO A40

There's not much in it, but for iOS and iTunes users, AirPlay makes things simple – as on the Devialet – while the app streams more services, better, than KEF's effort.



**AUDIO PRO A40****KEF LSX****DEVIALET PHANTOM REACTOR**

## TEST 03: PERFORMANCE

So here's another quite important test for a speaker: how good does it sound?

**T**he not-so-secret weapon of the KEF LSX is that it's two speakers, not one, so you get a proper stereo sound field to enjoy. Resolutions of up to 24 bits/192 kHz are supported.

With lossless and hi-res sources such as Tidal Hifi or tunes stored on a NAS, the KEF sounds absolutely stunning, and even compressed tunes from Spotify and the like get a new lease of life.

The LSX perhaps lacks that real bottom-end thump you need for electronic music and heavy rock – there's actually an output to add a subwoofer, which is a bit of a giveaway. However, you certainly couldn't say it's a wimpy or tinny sound. It's just naturally limited by the compact speaker enclosures.

Having said that, the Phantom Reactor from Devialet takes up even less space but sonically it is a *beast*. Wherever you put it, the Reactor fills the room with sound. Subtle it is not; this is a pumping powerhouse of a speaker, and capable of ear-splitting volumes.

The Reactor does actually get a bit shrill as it moves towards its top volume, but in truth you'd only turn it up that loud if having a party, attempting to deafen your neighbours,

Wherever you put it, the Devialet's Reactor fills the room with sound

or perhaps drowning out the sound of you attacking someone with a chainsaw.

The Audio Pro A40 is another great-sounding speaker, but perhaps one more suited to slightly smaller rooms and quieter music. It's a very easy speaker to listen to, even though it lacks the decibels of the Devialet and the fuller sound field of the KEF LSX – though it actually is a stereo speaker, you need to sit right in front of it to get the full benefit of that.

There's a great option for most tastes here. The KEF is a more traditional sounding pair of speakers that's worth every penny of £999. The Devialet serves up thrilling, pulsating aural fireworks and is even easier to place than the KEF. The Audio Pro A40 sits somewhere in the middle, summoning up a laid back, very musical performance from a similarly understated, stylish box.

**T3****TEST 03: WINNER****KEF LSX**

This one is so tough to call. In some ways we prefer the more aggressive sound of the Phantom Reactor, but the KEF is true hi-fi quality, like mama used to make...



## VERDICT: THE OVERALL WINNER IS...

### KEF LSX

£999, [uk.kef.com](http://uk.kef.com)

**WE'RE IMPRESSED** Endlessly listenable, genuinely hi-fi-quality audio. The compact size and option of pairing the speakers wirelessly makes this perhaps the easiest stereo setup ever. Adding AirPlay 2 will improve it even further, on devices running iOS or iTunes, at any rate.

**WE'D IMPROVE** The app is really not great. We feel a

smidge more bass wouldn't go amiss at times.

**THE FINAL WORD** Compact, stylish and excellent sounding, this is everything a £1,000 pair of speakers should be. The streaming element will improve once AirPlay 2 – and hopefully Chromecast – is added.

★★★★★



### DEVIALET PHANTOM REACTOR 900

£1,290, [devialet.com](http://devialet.com)



**WE'RE IMPRESSED** So much power from such a small speaker. Music just fills the room and the sound is really good, irrespective of where you stand or sit.

**WE'D IMPROVE** The flip side of that is there's a distinct lack of stereo imaging.

**THE FINAL WORD** An incredible feat of futuristic audio engineering.

★★★★★

### AUDIO PRO A40

£900, [audiopro.com](http://audiopro.com)



**WE'RE IMPRESSED** Very tasteful design, and hugely listenable sound. The best app out of these three rivals (at least if they've by now fixed the iOS one).

**WE'D IMPROVE** It's quieter and less propulsive than the Devialet; narrower stereo field than KEF.

**THE FINAL WORD** A Scandi design classic and a great speaker.

★★★★★

## THE BEST MUSIC STREAMING SERVICES

#### 01 TIDAL HIFI

The great thing about this service is you can stream CD quality audio, although it does cost £20 per month rather than the usual tenner charged by most streaming services. If you're into music and shelling out for a premium speaker, it is well worth it, mind. Further benefits include MQA hi-res audio on compatible speakers – none of these is MQA compatible, however. Tunes can be downloaded for offline playback, as well.

#### 02 SPOTIFY

You probably don't need to be told about Spotify – 320kbps streaming sounds easily good enough for most ears, there are millions of playlists to be heard (and made), and £10 a month is very reasonable. Spotify Connect is a bit of a godsend as it means you can do without the often ropery apps used by wireless streaming speakers.

#### 03 APPLE MUSIC

This is actually a little similar to Spotify in that it means you

don't have to use aforesaid ropery apps. Hardly any streaming speakers directly support Apple Music, but in many cases you don't need to worry about that as they *do* support AirPlay or AirPlay 2. It's probably Spotify's closest competitor in terms of size of catalogue and ease of use.

#### 04 DEEZER HIFI

A direct competitor to Tidal Hifi, this costs the same (£20 per month) and offers the same 'lossless' (CD quality) sound

when streaming. However with Deezer, downloaded tracks for listening to when on a mobile connection, are compressed rather than lossless. Poor show!

#### 05 AMAZON MUSIC UNLIMITED

Another service that's very similar to Apple Music, Spotify and the non-'Hifi' versions of Tidal and Deezer. Amazon Music Unlimited is very good value at £8 per month or £79 per year for a single user or £15/£149 for a 'family' of up to six users.



# 5 ESSENTIAL ADD-ONS

Just because these provide all the speaker you need in one box, doesn't mean you can't outfit them with some extra great accessories

01



## 1 CAMBRIDGE AUDIO ALVA TT

Rock it old school, the new school way, with a record player that connects via Bluetooth aptX HD. This improved codec allegedly gives audio indistinguishable from a wired connection, on compatible speakers. Okay, none of these speakers supports aptX HD... but the KEF LSX does have standard aptX, which is better than regular Bluetooth. **£1,500, [cambridgeaudio.com](http://cambridgeaudio.com)**

02



## 2 AMAZON ECHO INPUT

If you have Amazon Prime Music or Music Unlimited, this very handy little electronic disk will let you have voice-controlled access to your tunes, via these speakers' line in or Bluetooth connections. It also has the full gamut of Alexa's other talents, services and Skills. **£35, [amazon.co.uk](http://amazon.co.uk)**

03



## 3 MADE.COM 'CLAUS' SIDEBORD

Formed from actual concrete, with contrast timber elements, this is the perfect modernist platform for any of these speakers. Storage space within is plentiful, for all your Blu-rays, spare HDMI cables, lovingly preserved back issues of *T3*, etc. **£699, [made.com](http://made.com)**

04

05



## 4 DEVIALET PHANTOM REACTOR STAND

Going for the Reactor, but worried it doesn't look quite enough like a vintage sci-fi film prop? Add this leggy stand. Now it's a *War of the Worlds* Tripod, striding across your living room to melt your cat with its heat ray. **£149, [devialet.com](http://devialet.com)**



## 5 AUDIO PRO ADDON C3

The Audio Pro is the only one of these speakers to do 'proper' multi-room, so what better to accessorise it with than... another Audio Pro multi-room speaker? This one scooped a 2018 *T3* Award, and has all the same features and style as the A40. **£219, [audiopro.com](http://audiopro.com)**





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<sup>†</sup>UNFAO, Global Forest Resources Assessment 2005-2015.

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# EVERYTHING YOU NEED TO KNOW

It's fast. Really fast. But speedier mobile downloads are only part of why 5G will change everything

Words: Alex Cox







As you might have guessed from the name, 5G – the fifth generation of mobile technology – is the successor to 4G. It's due to start arriving (lightly) this year, and the difference between the abilities of 4G and 5G is stark. On paper, 5G is faster than any currently available Wi-Fi tech, and faster even than any home broadband available anywhere outside South Korea. 4G LTE, the fastest standard currently available in the UK, is around 100 times slower than 5G when considering theoretical lab maximums. That's huge. It's also not entirely realistic; in real-world applications, 5G may introduce a 50 times increase in speed, though we'd wager it'll be less than that when all is said and done.

Those numbers, even if they're not wholly likely to be what we end up getting, are still impressive, and it's important to see them in context. They're easily enough to pull in entertainment content; the BBC requires 2.75Mbps to stream high-definition content from iPlayer, while Netflix asks for around 25Mbps for streaming its Ultra HD video. Even if new colour technology, frame rates or the move to 8K bumps those requirements up still further, there's cavernous headroom in the top-end 1,000Mbps bandwidth of the 5G spec to cope with it. If we only see speeds of 200 or 300Mbps, that's still comparable to the best home broadband connections available today.

## The 5G rollout may focus on delivering faster wireless broadband first

5G reaches those speeds in a few ways. First, it uses multiple antennas, allowing it to take advantage of Massive MIMO, which is similar to the tech used in modern Wi-Fi routers. Put simply, MIMO involves opening up multiple data streams from and to your device simultaneously, for a theoretically faster and more consistent connection.

### BACKWARDS AND FORWARDS

5G uses frequencies in a similar range to the current bands, and most 5G modems will also include backwards compatibility and fallback should a true 5G signal not be available. But that's not all: it also takes advantage of a new region of the radio spectrum. The 5G New Radio spec (AKA 5G NR, more on that later) does its magic by utilising so-called millimetre waves in the EHF band, running at somewhere between 30 and 300GHz. The shorter wavelength (emitting pulses between 10mm and 1mm apart, hence the name) means these

frequencies are capable of huge amounts of bandwidth. Consider, if you will, the quality of AM radio, which has a long wavelength, with the much shorter-waved FM – the difference in signal quality and consistency is stark, because FM's higher frequency helps it carry a much more detailed signal in the same time window.

Data capacity isn't the only advantage. Improved latency – jumping from an average of between 30–60ms on 4G LTE to as little as 3ms – means 5G data can get from one place to another much faster. 5G radios, in theory, should also be much smaller. The same is true at both ends of the communication; devices will be able to shave off space (particularly if they're able to drop Wi-Fi modules) and 5G transmitters will end up much less intrusive than current masts. Naturally, this also leads to better power efficiency, giving smart devices the battery life they so sorely need.

Again, this is mostly theoretical, and it won't all come at once. The 5G rollout is likely to focus on delivering faster wireless broadband first, before introducing additional infrastructure to improve latency and support massive numbers of smart devices. The service you get on day one will not be the same service you get as the network matures – both in terms of upgrades that are likely to happen, and the speeds that will be available once the network becomes more congested with devices.



# THE 5G DEVICES TO WATCH

What to expect from the big phone makers



## SAMSUNG

Though the coming Galaxy S10 lineup appears 5G-free at the time of publication, expect an S10 X to hit the market soon, with more before year's end. Samsung has developed its own multi-mode modem, featuring 5G and 4G on one chip.



## APPLE

Barring an unexpected 'one more thing' from Tim Cook at an upcoming Apple event, don't bank on seeing any new iOS devices with 5G support until 2020 at the earliest. Apple took a wait-and-see approach with 4G and 3G before it.



## SONY

Details are leaking about a 21:9 screened Xperia XZ4, mere months after the launch of the XZ3, and Sony is good about keeping on the curve with its processors: looks like it'll have a 5G-capable Snapdragon 855 chipset inside.



## HUAWEI

February's MWC will see Huawei showing off at least one 5G-capable phone, perhaps a whole suite of them (the company's wording has been vague so far) and apparently it has its own multi-mode modem cooked up for 5G and 4G.



## ONEPLUS

OnePlus has set its engineers' sights on getting 5G hardware out fast, and claims we could see its first 5G handset on the market before the end of May. It'll be a sight pricier than previous OnePlus phones, and exclusive to EE in the UK.



## HONOR

Honor's plan has always been to be first to market with a 5G phone, although at press time we have no more information than that. Given the company's rivalry with OnePlus, though, swooping in before May would make sense.



## LG

Confirmed for MWC, LG's first 5G phone – with a Snapdragon 855, 4,000mAh battery and some nifty vapour cooling tech – looks likely to be revealed alongside the company's G8 flagship. Or perhaps they'll be one and the same...



## GOOGLE

Lips are sealed at Google HQ so far. There's a slim possibility of the Pixel 4 supporting 5G, but Google tends to lean on already-proven tech for its big feature phones, so we'd be surprised to see it in there this year.



## NETGEAR

Not a phone, but Netgear has pushed out one of the first proper 5G devices in the form of its Nighthawk hotspot, which turns a 5G signal (if you can find one in the limited US markets it's being tested in) into speedy 801.11ac Wi-Fi.







But still, let's look at the long term: the unprecedented speed upgrade of 5G could change the way we think about all of our tech, and bring some massive consequences for the development of basically everything in the future. The same generation that once spent five minutes loading a few kilobytes of unreliable computer software from cassette tapes could soon be able to download an entire 4K movie to our phones in far less time. We'll be able to send messages between each other, over the air, literally faster than your eye can see.

It could be the enabler for tomorrow's transport network, made up of entirely autonomous and seamlessly interconnected cars and trucks. Sharing sensor and mechanical status data between them, and talking constantly to one another at super high speed, future cars will be effectively

accident-proof, and they'll balance their routing to avoid traffic for a more efficient ride – something 4G doesn't have the muscle to keep up with efficiently. 5G's huge capacity could also take that transport to the air, backing an intricately piloted array of delivery drones programmed to keep to the correct airspace and not clonk into each other. A *Blade Runner*-style flying car future perhaps isn't on the cards yet – 5G can't do anything about gravity, sadly – but it's not hard to see the impact it'll have.

5G's high capacity will also take the notoriously bandwidth-heavy tech of VR to the next level. Not only could it do away with the wired tether that makes most VR experiences awkward and restrictive, it could also push the powerful PCs that have traditionally been required for VR into obsolescence, moving all that effort into the

cloud. You won't even need to be at home to strap on a headset, provided you're in 5G range – and those autonomous vehicles will know where you are should you wander into the street. The low latency of 5G also means VR should react to your movements more precisely than ever before, eliminating the potential for sea sickness caused by today's microscopic delay.

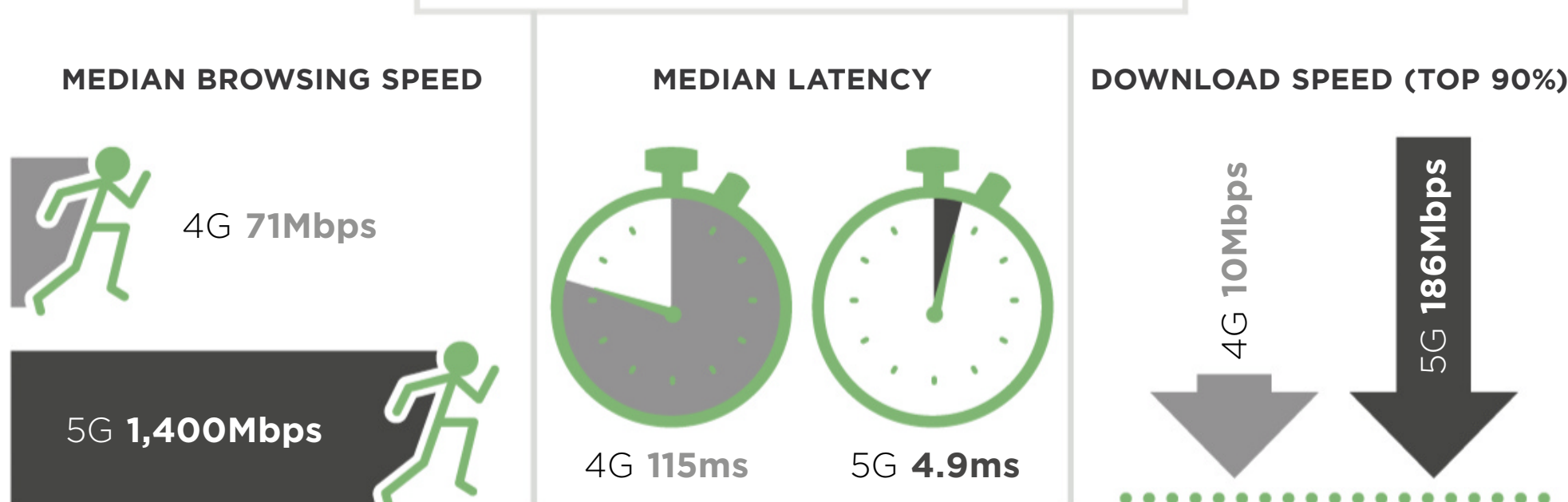
5G's immense bandwidth could make a huge difference when it comes to crowding. If you've ever been to a concert or sports game – or even visited a busy town centre – you'll know the pain of having a supposedly full 4G signal yet absolutely atrocious (and possibly non-existent) data rates. Your local 4G tower, and the frequencies it uses, can only throw out so much data at one time. If everyone wants a slice of the pie, it needs to cut it infinitesimally thin; 5G masts will be far more numerous, and able to support many more simultaneous devices. Kit will be able to stay constantly connected. Smart devices won't need to rely on Wi-Fi, and the smart home will move outwards – indeed, constant low-power networking could mean tomorrow's smart devices do more than we can even imagine today.

## THE FUTURE IS UNWRITTEN

We've barely scraped the surface as to the sort of technology 5G could power, and there are some who theorise that 5G could lead to major change: the demise of local storage, the death of home broadband, even the end of the smart phone as we know it. There's a lot of sci-fi brainstorming out there, mainly because a 5G future, one with unprecedented connectivity and network speed, is so exciting to imagine.

That's the good news. The bad news is that even though there's a lot of potential, 5G is still fluid. It's yet to be proven, even in the 5G previews run thus far. The test installation

## HOW DOES 5G COMPARE TO 4G?



Source: Qualcomm network simulation



# HUAWEI TALKS 5G PHONES

Walter Ji, head of Huawei's Western Europe Consumer Division, on the new technology



Huawei is the seventh-largest IT company in the world. In recent years it has made its name with big releases such as the P20 Pro and Mate 20 Pro – but Huawei has also played a big role in supplying the 4G infrastructure behind some of the UK's biggest mobile networks. Walter Ji, head of Huawei's Western Europe Consumer Division, says it's all-in on 5G handsets.

**T3 Is 5G important to Huawei?**

**WJ** Yes. 5G can provide much lower latency, which makes real-time communication and real-time control possible. It will provide a much higher capacity with bigger access, and many more connections in a smaller space. It will change people's lives. It will change the work market. So that's why we need every system to develop more

– to benefit not only consumers, but also workers.

**T3 You'll be releasing 5G smartphones?**

**WJ** Yeah. In Barcelona in 2018 we announced our first 5G chipset and we also launched our first 5G CPE [Customer Premises Equipment], which came first. So that allows consumers to utilise 5G – not yet for the smartphone, but in the home. Now, the size of the chipset has become small enough to be integrated in a phone. If not in the P30, then for sure it will be included in the Mate series in September.

**T3 How will 5G change things?**

**WJ** Personally, we believe that 5G will be more evolutionary. It might not be the same as 3G. When that rolled out, network

deployment – or the operators deploying it – were fast, and consumers were eager to change, because of apps and cloud services. For 5G, we believe that the future is brilliant, but in terms of building more of these applications, and how to develop the ecosystem? It will be more evolutionary.

**T3 Do you think 5G will come to larger devices first?**

**WJ** There are always two directions. One, there's the consumer needs. Another one is technologies. From our survey, we don't think that, at least in the European market, people are appreciative of the tablet. Although people are starting to adapt to a bigger and bigger size, people still don't appreciate tablets. Even for me, I don't feel the tablet has a big future.

# VODAFONE'S 5G FUTURE

Scott Petty, Chief Technology Officer at Vodafone UK, discusses his company's plans

As one of the UK's four biggest mobile networks, Vodafone is poised to be a big part of the 5G revolution. *T3* caught up with Scott Petty, Chief Technology Officer at Vodafone UK, to talk the tricky ins and outs of getting 5G online.

**T3 How quickly is the 5G rollout likely to happen worldwide? What does the UK 5G roadmap look like?**

**SP** In the UK, 5G will roll out throughout 2019. This will be released using the current 5G standards (Non Standalone Architecture), where the existing 4G layer will be used as an anchor. The main challenges are the evolving software standards through the radio core and devices, and keeping those aligned for launch, as well as physically building mobile cell

sites to allow for the new antenna and radio upgrades.

**T3 How does 5G compare to 4G and below?**

**SP** From mid-2019, 5G consumer devices will be available to purchase, offering customers speeds four times quicker than 4G. 5G smartphones will also have super low latency, which gives you a greater overall user experience in certain applications such as streaming or gaming. There will also be Customer Premises Equipment (CPE) for fixed wireless access, making use of enhanced mobile broadband where 5G cell coverage is available and a fibre connection is not.

**T3 Are the much-touted promises of 5G actually realistic? A movie download in**

**seconds, enough bandwidth to stream VR experiences?**

**SP** The mobile networks will accommodate these large bandwidth use cases. Technologies will be improved on a continuous basis to accommodate other more advanced applications. The tech is currently in its testing phase, and will be ready for consumers to use – alongside devices with 5G capabilities – by the summer of 2019.

**T3 5G is set to be the backbone of the internet of things going forward; what challenges are there to supporting so many devices?**

**SP** The main challenge is maintaining the contiguous footprint, which will be achieved by shifting narrowband 4G to 5G, and deploying a low-band

5G network to cover all areas in the first instance. As upgrades continue the network will get stronger.

**T3 What does 5G mean for the future of home broadband specifically?**

**SP** 5G will give consumers the same experience as fast home broadband, but we believe that Fixed Wireless Access will complement home broadband, rather than replace it.







showcased at the 2018 Winter Olympics in Pyeongchang, South Korea, used a pre-standard version of 5G developed by Korea Telecom, while Verizon's 5G fixed-wireless broadband implementation, launched to limited markets late last year, uses the company's own self-developed 5G formula. The first and most crucial factor of 5G's rollout is consensus; happily, it looks like the 5G NR standard has been pretty much universally adopted worldwide, and even Verizon has stated that it'll change its standard in the future as long as 5G NR meets its expectations.

5G also has a host of other external factors to deal with. While it's able to throw around a massive amount of data very quickly, 5G is far more prone to atmospheric interference than slower-speed wireless tech – if you've

ever compared 2.4GHz Wi-Fi to 5GHz and noticed the latter struggling with reach, it's a similar situation. 5G's radio waves can, at the most, propagate around a kilometre in clear line of sight and with no obstructions, and generally aren't effectively received outside of around 250m. Put walls or other obstacles in the way, and that distance is reduced even further. Taking advantage of the fastest 5G transmissions requires close proximity to a mast – so our mobile infrastructure, and even the theory around it, is going to need a major overhaul to make 5G the norm.

We'll also need a jump forward in device support. Backwards compatibility with 4G networks won't be an issue since the older system won't be going anywhere for the foreseeable future, but there's little

hardware available today that's actually ready to take advantage of 5G. That won't be the case for long. Networks are committing to and pushing for a rapid rollout, and even collaborating to get the job done in the case of O2 and Vodafone. Device manufacturers are equally excited to get on board – with a global standard now seemingly ratified, and networks readying up their masts, expect 5G support in phones and even home routers to become the norm. And let's not forget consumers. We all want to get our hands on 5G devices. It's a perfect storm of demand and, hopefully, supply.

## YEARS OF HOPE

5G absolutely means a bright future for technology, and it's one that's pretty close. By the end of 2019, the UK's networks will have been installed 5G in some of the country's busiest urban areas. But the rollout will likely not be as fast as, say, 4G, which itself was frustratingly slow to expand – 5G's comparatively short range means it requires many more transmitters, making widespread installation a difficult task. It could be years until 5G reaches your street, so don't bin your current phone just yet. Rural areas will almost certainly have to wait even longer once the main 5G rollout is complete, but for those forced to rely on satellite internet because traditional broadband is too expensive to install, 5G (when it reaches them) may be a truly life-changing tech.

We're also not positive on what the price will be. If 5G continues to employ the capped data plans of 4G, its utility may be limited not by its speed but by its cost – so your home broadband connection is safe for now. But that's an 'if' – given the potential capacity of 5G, unmetered connections like the 50 Euro per month plan announced by Finnish network Elisa may be a solid possibility. We can only hope.

## 5G FAKERY

When is 5G not 5G? When it's 4G wearing a fake moustache and glasses. American network AT&T has begun transitioning some of its customers to what it calls 5G E, and convinced some manufacturers to display a 5G E logo on the status bar of phones. Thing is, 5G E absolutely isn't 5G. In fact, it's a slightly boosted form of 4G LTE with an average data rate of around 40Mbps, slapped with a confusing, and some might say highly misleading, label.

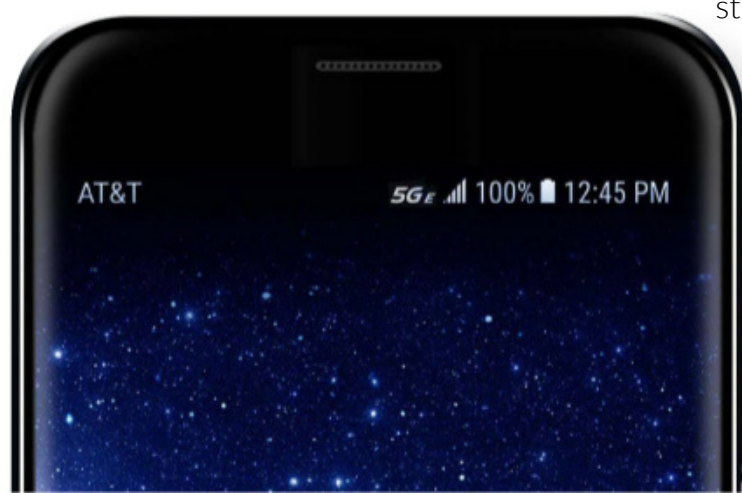
T-Mobile CTO Neville Ray, biased as he may be, claims AT&T is "duping customers into thinking they're getting something

they're not." Sprint's spokesperson went one further, stating "AT&T is blatantly misleading consumers." It's not hard to see why this has everyone riled; AT&T's mocked-up screenshots show the '5G' part of the logo large, and the 'E' in a tiny font next to it – all this on what is resolutely a 4G network.

AT&T seems happy with its decision. "Every company is guilty of building a narrative of how you want the

world to work," said AT&T CEO John Donovan on stage at CES, "and I love the fact that we broke our industry's narrative... and they're frustrated."

Don't expect this deceptive branding to be a common thread as the 5G rollout happens in the UK. But when your favourite network starts offering '5G', it's certainly going to pay to do your research and be absolutely certain of what you're really getting before you sign up.





# INTEL TALKS 5G

T3 talks to Alex Gledhill, Intel's Global Account Director, about how it sees 5G shaping the future



Intel has made a big commitment to 5G infrastructure. The company has contributed to the first real-world 5G tests, developed its own 5G modem, and used its place on mobile consortiums to help define the vital 5G NR standard. It is also helping to build the back-end networks that 5G depends upon, much of which people like us will never see or even think about, but are a huge part of a 5G-connected future.

## **T3 Let's start broad: why is 5G so important?**

**AG** From connected cars to smart homes and smart cities, 5G will deliver the infrastructure required to support new technologies that will fundamentally change the world we live in. The improvement in connectivity and computing power will enable devices and applications to perform at infinitely faster 'real-time' speeds. Moving the intelligence to the 'edge' of the network will unlock revolutionary new capabilities;

things like improved smart health solutions or ultra-high resolution 4K 360-degree video for immersive virtual reality (VR) and gaming experiences.

## **T3 Intel says that 5G will revolutionise the UK rail network. Is this just a case of better on-board Wi-Fi, or something more exciting?**

**AG** The real-time speed of 5G will enhance our travel service experience, enabling a faster more efficient service, and will be substantial enough to satisfy artificial intelligence on board each train. AI can then be used to better understand each train – which ones will be busy, for example – and therefore run a more efficient service. Efficiency is key, and with a connected experience, we should see improvements in commuters' journeys by train or road. With 5G, passengers will be able to conduct meetings and conferences on their journey to work.

## **T3 Could 5G lead to a reduction of the work week?**

**AG** 5G will allow people to work efficiently whilst providing us with the flexibility we need to work wherever we want. It will enable technologies such as AI to take the heavy admin lift in various industries, therefore freeing up time so employees will, overall, become more productive. Autonomous vehicles will maximise commuters' opportunity to increase productivity on their journey to and from the office. Using these previously unused hours will reduce the amount of time physically needed in the office.

## **T3 Who's leading the 5G race? Will we see any unexpected entrants with big 5G releases?**

**AG** The interesting thing is that technology companies and governing bodies are equally invested in bringing the technology to the masses. Intel is motivated to launch 5G commercial services this year and we are using our experience within PCs and data centres to

converge computing in a data-centric era, connected by 5G.

## **T3 What future problems could 5G solve?**

**AG** 5G will be important in tackling big world problems. One area that we think has huge potential is healthcare, from being able to make life-saving decisions in real-time with on-demand patient data to delivering offsite care with improved telemedicine and supplies to remote locations. 5G will be the driving force behind new life-saving technologies.

## **T3 Will 5G mean a complete transition to cloud infrastructure?**

**AG** The transition is already underway. Telecom providers have been on that journey for several years by using virtualisation and moving networks to cloud-native tech. As the cloud gets closer to the edge, it does become increasingly more challenging to put entire networks onto the cloud as we know it today – the cloud will evolve.

## **T3 A recent Ericsson study predicts that 5G will lead to the death of the smartphone. What is Intel's view? Will it also mean the end of the PC as we know it?**

**AG** Smartphones and PCs will both evolve. 5G will enable more adoption of IoT technology, creating new platforms and guidelines for devices to operate on. We'll begin to see more voice-controlled tech materialising outside of the home. It is interesting, however, to see how PCs are already starting to evolve. For example, Intel recently announced Project Athena which is helping to bring a new class of advanced laptops, designed to enable new experiences and capitalise on next-generation technologies like 5G and AI, to the market.





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# ISSUE 293

ON SALE  
FRIDAY  
15 MARCH

Meet the coolest, most important tech trends,  
products and people you *need* to know about.  
Yes, it's the annual T3...

# HOT 100

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— Meet the amazing £20 smart camera —  
— Bargain 4K HDR projectors —  
— Luxe pet tech that tracks, feeds and cleans —

\* ALL CONTENTS SUBJECT TO CHANGE





# TESTED

Expert reviews and recommendations  
to help you buy with confidence

Edited by Matt Bolton



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## HOW WE TEST

In *T3*, we feature only the finest gadgets out there, and we believe that you – our loyal reader – deserve only the best tech in your life. We don't want you to waste time, and money, on inferior products, and that's exactly why our Tested section exists.

In here you'll find only the latest and hottest tech. Each product has been handpicked and tested by *T3*'s experts.

We only choose people with specialist knowledge for each test, so you know you're going to get an outcome based on many years of experience in their respective field.

As well as our traditional five-star rating system (right), we also give out awards to particularly exceptional gadgets, using the line-up below – so when you spot one of these, you'll know you're onto a good thing.

## THE SCORES EXPLAINED

- ★ ★ ★ ★ ★ Forget it
- ★ ★ ★ ★ ☆ Below average
- ★ ★ ★ ☆ ☆ Good for the price
- ★ ★ ★ ★ ☆ Very good all round
- ★ ★ ★ ★ ★ An exceptional, best-in-class product

## OUR AWARDS



Only the best products – those that score five stars – receive our Platinum Award



This is given to winners of our group tests, so you can see which is the best at a glance



This accolade, and others like it, show you which gear is best for specific features



For kit with exceptional industrial design and refinement, in addition to being a great buy





## SPECIFICATIONS

**Processor** Kirin 980 **Screen** 6.4-inch, 2310x1080 LCD **Memory** 8GB **Storage** 256GB **Battery** 4,000mAh **Cameras** 48MP rear, 25MP front **OS** Android 9.0 Pie, Magic UI 2.0.1 **Dimensions** 157x75x8mm **Weight** 180g



From £499  
hihonor.com

**W**ith its visually arresting and gorgeously bold Aurora nanotexture backplate, the big focus on gaming and consuming media, and an AI-packing camera system that seems geared towards recording and interacting with real-world experiences in an immediate way, the Honor View 20 feels like its pitching hard to the younger audience.

### Core blimey!

The phone lacks some of the high-end features and refinements of the most expensive handsets, but it sheds these as superfluous for its intended user, instead focusing on what the younger generations want, and doing so while maintaining a flagship core spec at a far from flagship price.

As such, whether or not the View 20 is the right phone for you depends on who you are and what you value in a handset. We think anyone could love it, as long as you know from the start what you're getting.

Take the Aurora nanotexture design, for example. Not only is it

HOLE-Y MOLY

# Honor View 20

Say goodbye to the notch and hello to the pinhole (and also to flagship-level speed in a super-slick mid-range handset)



**NEW RESOLUTION**

The screen has a pixel density of 398ppi, which is lower than top-tier phones, but still really high. In fact, that's a higher resolution than this page is printed at...

**PLASTIC NOT FANTASTIC**

The View 20 feels generally well-made, but there's definitely a plasticky feel to the finish that more expensive phones don't have

vibrant in terms of base colour, it cleverly generates a series of V-shaped gradients that catch the light at pretty much any angle. The result is flashy, for sure, and definitely helps the phone to stand out.

The *T3* office was split on whether we liked this design or not. A lot of people might prefer the subtler hyper optical pattern used on the Huawei Mate 20 Pro, but beauty is in the eye of the beholder, and some of us loved having something so punchy.

Beyond the backplate, the other thing that immediately strikes you when using the View 20 is how large the screen is. Yes, this is not a small phone. A 6.4-inch LCD screen with a 1080x2310 resolution only tells half the story, because the 91.8 per cent body-to-screen ratio and embedded 4.5mm punchhole camera cut-out mean that while this screen is very large, it doesn't feel oversized and is still usable with one hand (for people with larger hands).

The panel looks really sharp to the naked eye, though is lower-resolution than higher-end phones, but that's to

be expected. And it doesn't feel like you're massively missing out on detail. The screen is good for colour vibrancy and brightness, too, and we love that you can use the Colour mode and temperature options in the settings to tinker with the vividness and warmth of the display.

Again, compared to the likes of the iPhone XS OLED display or the Sony Bravia phone screens, it's not quite as rich, but they cost loads more. What you get here won't leave you wanting.

That statement is even more true inside the View 20. At the heart is the rapid Kirin 980, the same processor as seen in our favourite Android phone, the Huawei Mate 20 Pro. It means you get flagship-level real-world performance. Rattling though the Android 9.0-based Magic UI was buttery smooth, in-app performance incredibly responsive, game and media loading rapid.

The combination of the Kirin 980 CPU, 8GB of RAM and 256GB of storage space add up to a bulletproof experience. (A 128GB version with 6GB of RAM is also available.)

The resolution and screen shape mean you can watch Full HD movies without the camera getting in the way

One notable area of performance is how well graphically intensive mobile games ran on the View 20. The phone felt as good to play these games on as last year's dedicated Honor gaming phone, the Honor Play; the same GPU Turbo 2.0 tech adds serious under-the-hood power for keeping frame rates totally smooth.

**Clear screen**

The headline camera feature on the Honor View 20 is its front pinhole camera, which hides a 25MP sensor with hardware-based HDR and Portrait mode. This means that the phone's large 6.4-inch screen remains completely uninterrupted aside from a circle in the top-left corner.

The whole notch thing has always been a compromise – we were never appalled by their introduction, but they were clearly necessary rather than desired – and this is a small but welcome step forward towards the ideal of having all front-facing sensors and camera hidden in-screen.

On the rear, the View 20 comes with a 48MP main camera, supported





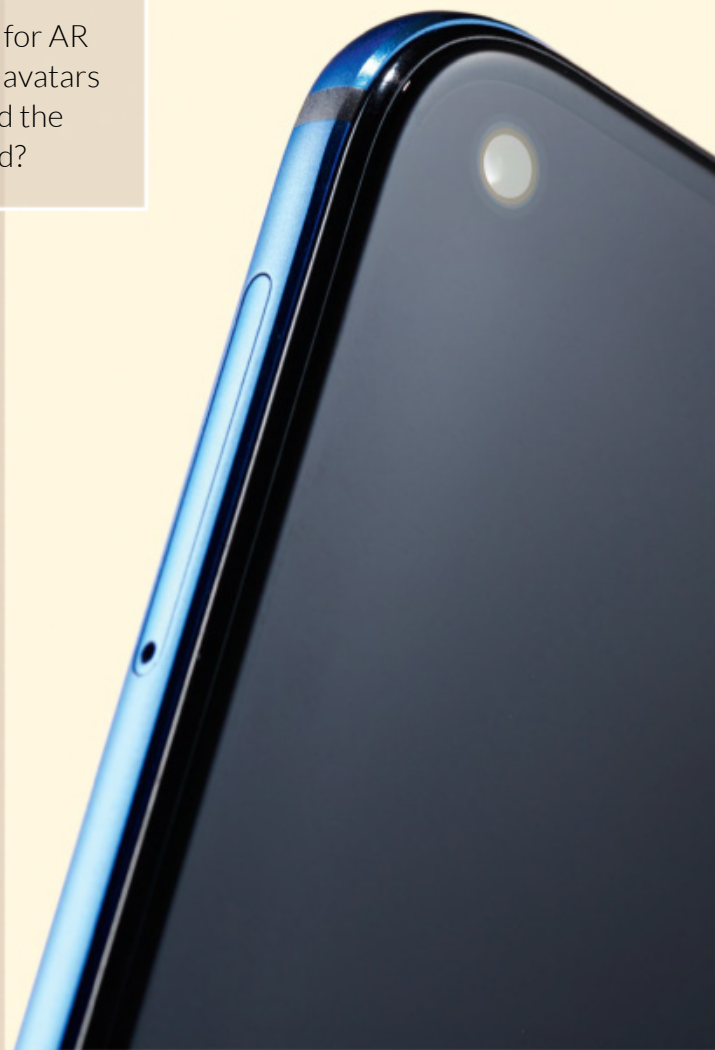


#### V FOR VERY NICE

That bold, v-shaped pattern shifts depending on the light, causing highlights to appear along different parts of the back

#### AR WE GOOD?

The cameras are all geared up for AR shenanigans such as filters, 3D avatars and games. What more could the Snapchat generation need?



with a secondary sensor for depth data, effects and AR gaming.

The big sell with this single camera lens is its ability to shoot super-detailed images, which can then be taken to an even more detailed level with Honor's AI Ultra Clarity mode. This is designed for landscapes in good lighting conditions, and means the system shoots a series of images before stitching them together to produce photos with phenomenal levels of zoomable detail.

Colour capture and detail is good and, unlike some devices, excessive noise at the periphery isn't a problem.

This is Phantom Blue. The View 20 also comes in black, red and a *different* (Sapphire) blue...

There's also a Night mode, which takes smaller images but uses the data from four pixels on the sensor to inform each final pixel in the photo, and so can show images from levels of darkness where even the naked eye can't manage to see anything.

Naturally, the View 20 has an advanced Portrait photography mode, which works through both the front and rear cameras. Aside from leaning a little too much towards artificial smoothing for our liking, the mode enables both beautification and shaping, as well as various types of lighting to be applied. The addition

of fake bokeh is not best in class, but still managed to impress us.

While those 48MP images are brilliant, and the amount of shooting modes on offer are equally so, the camera system on the View 20 doesn't match the full quality (and flexibility) of the Google Pixel 3 or the iPhone XS.

#### Power pack

The View 20 comes with a capacious 4,000mAh battery, which, while falling short of the titanic 4,200mAh unit powering the Huawei Mate 20 Pro, is still way up there compared to most phones on the market.

## THE ALTERNATIVES



#### ONEPLUS 6T

The latest OnePlus has a smaller notch that's almost as cool as the View 20's pinhole. The phone is stuffed with great tech, including a 6.4-inch OLED screen, in-screen fingerprint reader and zippy Snapdragon 845 processor.

£529, [oneplus.com](https://oneplus.com)



#### XIAOMI MI 8 PRO

This is another tech powerhouse, with a 6.4-inch OLED screen again, plus an in-screen fingerprint reader as well as infrared face scanning similar to the iPhone's. The rear even looks as though you can see inside the phone.

£499, [mi.com/uk](https://mi.com/uk)



#### SAMSUNG GALAXY S9

A year on from its introduction, the S9 can now be had for half its original price (in the 5.8-inch 64GB version). Okay, it's not brand-new parts, but it's still fast and slick, feels polished and premium, and has a top camera.

£399, [samsung.com](https://samsung.com)



**LIFE IN STEREO**

The twin-lens stereo camera sits alongside the main 48MP sensor, but is used only to augment that snapper, unlike the Mate 20 Pro, which offers different lens angles

The main real-world difference this number increase delivers is the ability for the phone to be used for two days on just a single charge. Numerous times during testing, we took the View 20 out with 100 per cent charge one morning, only to then not charge it for the entirety of that day and then through the next, only plugging it back in to charge on the second day's evening.

Sure, this only works with light to medium usage, so you can forget playing *Football Manager 2019 Mobile* for three hours before watching the extended version of *The Lord of the Rings: The Fellowship of the Ring* and then expecting the same level of multi-day battery performance. But providing you use everything in moderation, one and a half to two days is definitely possible.

The View 20 comes with Android 9 Pie – the slickest and fastest Android ever – as well as Honor's own light skinning of it, Magic UI 2.0.1. Fans of vanilla Android will not find it hard to get on with Magic because it comes with minimal extras (just core apps such as AppGallery, HiCare and Honor's store) and is intuitive to use.

Security unlock options include Fingerprint ID via the View 20's

rear-mounted fingerprint reader, which we found to be fast and generally first-time reliable, as well as face recognition, which isn't as secure as the biometric wizardry used on the iPhone XS, but it is easy to set up and reliably fast to use.

**Personal choice**

Ultimately, the raw power offered by the View 20 successfully burns off any small issues we had with the phone. The rear design may or may not float your boat, and that's fair enough – it's a personal thing. The absence of an in-display fingerprint reader when the View 20's direct rival, the OnePlus 6T, does have one is disappointing for tech enthusiasts. That's alongside the lack of a few other features such as wireless charging or waterproofing.

However, for its intended market, which won't always care too much about these sorts of esoteric features, this is a bold and brash powerhouse flagship that's sure to appeal to young professionals the world over.

To work out whether it's the best choice for you, ask yourself exactly what you want from a handset and how much you're willing to spend to get what you desire. But that's the beauty of the mid-range

The fingerprint reader is easy to hit, and there's no risk of smudging the camera lenses

Android ecosystem right now. If you want an in-display fingerprint reader and OLED screen on your £500 phone, you can plump for the OnePlus 6T or the Xiaomi Mi 8 Pro.

Or if you want your £500 phone to carry a super-fast mobile processor, have a standout design, and deliver detailed 48MP images, opt for the View 20. Or pay more for the Huawei Mate 20 Pro and get all of the above. Either way, you'll bag a winner.

**VERDICT**

**WE'RE IMPRESSED** Flagship power and speed; super-cool design; strong 48MP camera system; vibrant and large screen.

**WE'D IMPROVE** No in-display fingerprint reader, wireless charging or waterproofing; looks might not be for everyone.

**THE LAST WORD** This is our favourite mid-range phone on the market by a hair. Brilliant.



**See the latest deals on the Honor View 20 at: [bit.ly/t3view20](https://bit.ly/t3view20)**





## CORDLESS VACS

### Shark DuoClean Cordless

£349, [sharkvacuum.co.uk](http://sharkvacuum.co.uk)

### Vax Blade 2 Max

£249, [vax.co.uk](http://vax.co.uk)



#### FEATURES ★★★★★

The headline here is the bending tube – press a button and the solid tube gets an elbow, making it easy to clean under furniture. The head also has headlights on to see what you’re doing down there. It comes with a pack of extra attachments, too.

#### HANDLING ★★★★★

The Flexology tube works really smoothly, and is genuinely super-useful. However, the body is harder to lift than the Vax, it’s more prone to falling when left, and it emits a piercing whine. The small bin needs emptying a lot, but is easy to get to.

#### SUCTION ★★★★★

To be fair, part of the reason the bin needs emptying a lot is because this is a really great cleaner. Partly because it can get to weird areas, and partly because the DuoClean roller tech in the head just does a great job of lifting dirt up and out.

#### BATTERY LIFE ★★★★★

The Shark’s battery life is pretty middling at just over 20 mins, but it’s swappable, and you can buy it in a pack with two batteries, which makes it stand up to the Vax here for longevity (although you’ll pay more than the listed price up there for that).

#### VERDICT

**WE’RE IMPRESSED** Excellent vacuum performance; brilliant under-furniture cleaning.

**WE’D IMPROVE** Whiny noise; small bin, even by cordless standards; odd balance and rather weighty.

★★★★★

#### FEATURES ★★★★★

Just like the Shark, you’ve got a headlight on the main cleaning head it comes with here. Vax also throws in a tool kit with a load of useful accessories when you buy direct. It comes with a wall mount, but just charges from a simple plug.

#### HANDLING ★★★★★

The Vax is, we have to say, pretty noisy. It’s not unbearable, and it comes with great suction, but the fact remains. It’s more ergonomically friendly than the Shark, though less so than equivalent Dysons. The bin is simple to pop out and empty.

#### SUCTION ★★★★★

On both hard and carpeted floors, the Blade 2 Max outperforms any other cordless vac. Its spinning brush bar is effective, and the 40V of suction is very good. You can boost the power easily with a push of a button, which is good for dense carpets.

#### BATTERY LIFE ★★★★★

The Blade 2 impresses here as well, lasting longer than one Shark battery, or even the more expensive Dysons we’ve tried, at both higher power levels as well as standard. It can go from empty to charged in around three hours.

#### VERDICT

**WE’RE IMPRESSED** Excellent floor cleaning; easy-to-empty bin; solid battery life; great price.

**WE’D IMPROVE** Not very quiet in use; not as easy to handle as a Dyson for things other than floors.

★★★★★

2nd

1st

Track the lowest price on these vacs at: [bit.ly/t3cordvac](http://bit.ly/t3cordvac)





MAX VOLUME

# Google Home Max

Google pumps up the volume with its new super-sized smart speaker

£399  
store.google.com

**T**he world of Google Assistant speakers has yet to explode in the way that Alexa-powered audio has. Here in the UK, we've been especially limited for options when it comes to big and high-end sound powered by Google, but that changes with the Home Max.

## A touch of class

Sticking with the fabric cover and soft-touch plastic styling of the Home Mini, the Max comes in one finish with a white body and light grey fabric, and one where both are charcoal. We like the design, and though it's among the biggest smart speakers so far, it doesn't feel too imposing. The Max is built to a really high quality, and has some serious heft to it.

At this size and price, the sound quality has to stand up to dedicated audio gear, as well as the might of Apple's HomePod (the best-sounding individual) smart speaker... and it nails it. The Max might be expensive, but it feels as though every pound is pouring out of the grille when you blast your favourite songs.

Like the HomePod, the Max uses internal mics to listen to the sound it's putting out, and to adjust processing on the fly to make music sound the way it should in your specific space. As a result, it sounds perfectly balanced, mixing detailed highs with rich, smooth bass from its twin woofers. It fills the room well, though doesn't offer 360-degree sound or a notable sense of stereo separation on its own (but you can pair two into stereo).

Playing on it is easy: you can ask Google Assistant, of course (it hears very well over loud music, and four subtle lights on the front show you when it's listening); use Google Cast from streaming apps, which also means it works as part of a multi-room setup; you can stream to it over Bluetooth; and you can plug an audio source in manually. That flexibility is welcome, especially compared to the HomePod's severe lack of it. The only minor technical issue is that the Home app can be slow to respond at times, but you don't have to use it very much.

There are other thoughtful touches, too: the Max comes with a pad to rest it on to help avoid vibration interference, and it can be stood upright or landscape, with the lights and controls shifting with the orientation. If you're looking for an Assistant speaker with a real kick to it, Google has ticked all the boxes here.



## VERDICT

**WE'RE IMPRESSED** Gloriously full and detailed sound; Google Cast multi-room; lots of ways to play to it.

**WE'D IMPROVE** Google's Home app isn't always responsive.

**THE LAST WORD** This does the 'speaker' part of smart speaker better than the rest, thanks to top sound as well as versatile inputs. The only downside is that it's less useful if you're tied to Alexa.



See our list of all the best smart speakers at: [bit.ly/t3smart](https://bit.ly/t3smart)





## SPECIFICATIONS

**Processor** 1.8GHz Intel Core i7-8565U quad-core **Graphics** Nvidia GeForce GTX 1050 2GB **Memory** 8GB **Storage** 256GB SSD **Screen** 14-inch LCD, 1920x1080 **Connections** 1x USB-C 3.1, 1x USB-A 3.1, 1x USB-A 2.0, 1x HDMI, 1x audio jack **Dimensions** 323x 225x18mm **Weight** 1.6kg

£1,149  
asus.com

## THE ART OF ZEN

# Asus ZenBook Pro 14

The era of the two-display laptop is here. So, does having a screen in your trackpad change the game?

**L**aptops have been around for a long time, and it's not so much that they're in danger of being boring, it's more that it's kind of hard to keep them interesting. The next wave of innovation seems to be around more screens – Apple has the Touch Bar on MacBook Pros, and Asus is swapping out its trackpad for a touchscreen. It's not the first time this has been tried, but Asus does good stuff with its hardware, so we figured it has a chance of actually working here...

### Premium touch

Asus knows how to make a good-looking laptop, and the ZenBook Pro isn't a disappointment in that regard. This laptop doesn't just look good though, it feels good too. There's a

premium vibe to the materials, and just the right balance between heft and portability. Deep Dive Blue is your one and only colour choice but we like it, along with the subtle gold accents around the edges and on the keys, which are a pleasure to type on, feeling both solid and responsive.

Near the keys you will find one of the laptop's main selling points: the touchpad, which doubles as a second screen. Asus is proudly calling this a ScreenPad, and it might well appeal, if you can find a use for it. Alas, we couldn't. App support is limited (Microsoft Office and Spotify are the two standouts), and even when programs do make use of it, the ScreenPad still feels a bit gimmicky.

One of its modes emulates a second display, so it's like having another monitor plugged in. You can, for example, run a YouTube video full screen on the trackpad, or a Twitter timeline. The problem then is that you can't use it as a trackpad, so in those





situations you had better have a mouse handy.

It's kind of cool, for a bit, but we couldn't really get much use out of it. You can switch off the ScreenPad and use it just like a normal trackpad, so it's hard to count this as a point in the negative column. In fact, it's more like a bonus for those who can work out what it might be good for.

The main screen features a middling 1920x1080 resolution (a 15-inch version with a 4K screen is also available), but we didn't have any complaints about the sharpness or the richness of the display. We're also big fans of the minimal bezels on show here: the laptop has an 86 per cent screen-to-body ratio, and looks really impressive in use.

Our unit has a quad-core Intel Core i7 processor, 8GB of RAM, and 256GB of SSD storage. You can up the RAM (to 16GB) and the storage (to 1TB) but we haven't seen those models on sale yet. The Nvidia GeForce GTX 1050 Max-Q chipset and 2GB of graphics memory make it a serviceable gaming laptop, though not top-tier.

In short, it's a powerful machine that ate up day-to-day tasks and

performed very well with high-end stuff, too. We didn't notice any real lag when image editing or crowding the screen with browser tabs. When gaming, it'll run just about anything, but don't expect new high-end games to look mind-blowing. Strategy games run smooth enough. It does run hot on occasion, but that's alright if it isn't literally sat in your lap.

### The price is right

We found ourselves getting a little over seven hours of use between charges of the battery, which is fine for long journeys and trips out of the office, but if you're out the whole day you might be hunting for a mains socket by the end of it.

We found that a little light word processing and emailing would knock the battery life down by about 10 per cent an hour on the default settings; an hour of Netflix streaming with the volume at a reasonable level would see around a 20 per cent decrease.

As with every laptop, there are ways to extend battery life (dim the screen, etc). Asus quotes 12.5 hours between charges, which seems very optimistic to us, but those figures we

Despite its portability, you're not lacking in useful ports here

mentioned earlier were what we saw during our testing.

Audio, built with Harman Kardon, is better than average but not likely to make you choose this over a different laptop for the sound quality alone. It's just fine for watching movies or shows in a hotel room or something, but it's not like you'd ever choose it over your soundbar for audio quality.

We like the ZenBook Pro 14 a lot, and would gladly use it as our main computer, but it didn't bring the revolution we were hoping for with its ScreenPad. Yes there are more stylish and powerful laptops around but they tend to be more expensive, so for a machine that's pricey but not too pricey, this Asus is a great choice.



## VERDICT

**WE'RE IMPRESSED** Mostly powerful specs; attractive overall design; bright and vibrant screen.

**WE'D IMPROVE** Battery life is average; gaming power also middling; ScreenPad can be more of a distraction than a help.

**THE LAST WORD** The ZenBook Pro 14 isn't perfect, but it gets a lot of things right. Don't buy it for the ScreenPad gimmick. Instead, buy it to enjoy a good balance of power and portability.



Find the current lowest prices at: [bit.ly/zebpro](http://bit.ly/zebpro)

## THE OTHER OPTIONS

### HUAWEI MATEBOOK X PRO

A 13.9-inch 3000x2080 screen is paired with a super-thin frame and up to quad-core power, plus great battery life. You don't get as strong graphics options, but this is brilliantly ultra-portable. **£1,389, [huawei.com](http://huawei.com)**



### DELL XPS 13

Again, this is lighter on graphics power than the ZenBook Pro 14, but it's extremely portable, fitting a super-sharp 4K 13-inch screen and a quad-core processor into a body closer to an 11-inch laptop. It's a real looker, too. **£1,399, [dell.com](http://dell.com)**





# First-time fitness trackers

Looking to start keeping an eye on your fitness? These are great first buys, from simple trackers to sporty watches that give you features to grow into

Words: Duncan Bell, Luke Edwards Photography: Neil Godwin



01

COMPLETE FITNESS MADE EASY

**FITBIT IONIC**  
£195, [fitbit.com](http://fitbit.com)

With the ability to store music, detect crunches and other gym workouts, as well as having built-in GPS and pulse tracking, this is the most complete tracker Fitbit has made, yet retains the company's easy-to-use approach for beginners. Tracking of steps, distance covered, calories burned and so on is here, with lots of extra options including coaching, for going up a notch. It's also something of a smartwatch, but only in a very basic way. Annoyingly, the heart rate monitor is inaccurate at lower rates (it's fine when higher). The battery lasts four days.

★★★★☆

02

PERFECT PLACE TO START

**FITBIT CHARGE 3**  
£129, [fitbit.com](http://fitbit.com)

This is the best simple fitness band (rather than watch), no question. It tracks deep and light sleep, steps, distance, calories and heart rate, and auto-detects when you're doing serious exercise, so you don't have to remember to tell it you're going for a jog or getting on an elliptical. Fitbit's excellently presented app and sprawling ecosystem mean you can use it as the basis of a total fitness and diet programme. No GPS will hold it back for runners over time, but with features such as VO2 Max hidden away, it's still very capable.

★★★★★

03

ROOM TO GROW

**GARMIN FORERUNNER 645**  
£299, [garmin.com](http://garmin.com)

This is quite a serious running watch, but with a feature set that ranges from simple fitness tracking to marathon-level advice, so it's perfect if you think you'll get more into running or cycling over time. There's step and stair tracking, and wrist-based heart rate monitoring. The Forerunner 645 also offers a range of running-specific metrics, and measures fitness so that it can advise you on optimal recovery times. It's well made, easy to use, lightweight, has a bright screen and looks good. And it has a seven-day battery life even with all that going on.

★★★★★



**A**s spring approaches, we see a lot more people try to get (back) into fitness, whether that's to lose weight, feel healthier, or even just to prove that they really can do a half marathon if they want.

If you're going to get off your sofa and work towards a 5k run, you'll need a bit of guidance to make sure you're doing the right things. The fitness wearables below range from basic trackers that can tell you whether you're walking a decent amount per

day, right up to running watches with the capability of coaching you like a pro. The key thing is that they're all great options for those of you who are starting out – some just offer more headroom for the future than others. Let's see which one is ideal for you...



04

**MORE THAN FITNESS**
**APPLE WATCH SERIES 3**  
From £279, [apple.com/uk](https://apple.com/uk)

The older Apple Watch is just about all the tracking most people keeping an eye on their health need: it measures calories, steps, exercise time, heart rate, GPS and more, plus workout tracking for loads of activities. The Fitbit range beats it for easy analysis and coaching, and the Garmins beat it for metric tracking, but it wins out for non-fitness features (calls, notifications, texts, emergency alerts), and it's the best-looking option. The battery lasts around four days if you don't use GPS much, and it only works with iPhones.

★★★★☆

05

**BIG TECH, LOW PRICE**
**GARMIN VIVOSPORT**  
£129, [garmin.com](https://garmin.com)

A lesson in how usability is as important as features: the Vivosport directly rivals the Fitbit Charge, but adds great extras such as GPS, a mode for counting reps at the gym, and a tool for monitoring your stress levels. But while it's a solid performer, it's less pleasant to wear than the Charge, the screen is less clear, and the app is more fiddly than Fitbit's. The same metrics are there, and more beside, but they're harder to find and use. Syncing is painful at times. For tech specs, this is excellent, but we would always reach for the Fitbit.

★★★★☆

06

**ENTRY-LEVEL, RUNNING FOCUS**
**POLAR M200**  
£129, [polar.com](https://polar.com)

If you want a serious running watch at a newbie-friendly price, this is ideal. The basic run workout tracking shows your route, distance, speed and pace, your heart rate through the optical sensor, calories burned and HR zones – simple and effective. If you're training for an event, the M200 will create a program for you to follow that builds you up over time. It also tells you how many steps you've walked, how many hours of sleep you've had, and how well you actually slept. It's not pretty, but it does its job really well.

★★★★☆





## MELODY MAKER

# iZotope Spire Studio

Got a hit song in your head? This portable music studio helps you create high quality multi-track recordings instantaneously

£349  
spire.live

**B**ack in the day, it was harder to make music than it is now. Musicians and producers would often have to rely on specialised equipment to get the sound they wanted, and were tied to traditional recording studios. These days, most computers or an iPad can act as an audio workstation for recording tracks anywhere. Audio tech brand iZotope hopes to make the process even simpler by packing handy multi-track recording into this portable, user-friendly gadget.

### Line 'em up

The Spire Studio records up to eight tracks, one after another, with a few simple button presses, and is powered by battery or from the mains.

The interface is stripped to the bone, making it a doddle to navigate. In fact, there are only five buttons to contend with: New Song, Volume, Soundcheck, and two giant record and play buttons. The buttons are easy to hit even when you've got a guitar or cello in front of you.

The circumference area is comprised of a touch-sensitive circular LED pad that serves as

a VU (volume unit) meter, a guide to the amount of tracks used, and as a means for raising or lowering the monitoring levels in your headphones. It has an omni-directional condenser mic built into the front, and has other professional XLR inputs.

The device works best when used with the free iPhone, iPad or Android app, which enables you to add effects such as reverb and echo (which are impressively adjustable, but can only be added during recording), and has some limited editing features. The device can also be used in a basic form without the app if you just want to capture a sound quickly, then export to the app or a full audio workstation tool later.

The built-in mic is excellent for the price and sensitive enough to capture the nuances of vocal and instrument recordings. Alright, so it can't compete against a high-quality third-party condenser mic, but that's what the inputs are for. Same goes for plugging in an electric guitar. As long you have a decent-sounding instrument and voice, and you hit the Soundcheck button first, it'll produce exceptional results.

All in all, the Spire Studio is a brilliant tool for bands and songwriters, or for anyone who wants to record themselves in a high-quality, flexible way. It's so easy, you can quickly record your next hit riff before it melts away.



**T3**

## VERDICT

**WE'RE IMPRESSED** Instant multi-track recording; portable with six-hour battery; integrated mic; pro-level connectors; built-in effects options.

**WE'D IMPROVE** The mic is good, but no match for a dedicated one.

**THE LAST WORD** The user-friendly Spire Studio is ideal for anyone who loves creating music, whether that's for a pro band or simply because you love it.

★★★★★

Find the lowest prices at:  
[bit.ly/t3spire](http://bit.ly/t3spire)



**WIN!**

# 1 OF 4 NEXTBASE 612GW 4K DASH CAMS WORTH £250 EACH!

This T3 Award-winning cam protects you on the road  
with its pin-sharp images and automated features



Dash cams are one of the best upgrades you can make to your car, helping to reassure you that you'll be able to prove you were in the right if an accident occurs. You need ultra-clear footage to do that, though, which is where the first true 4K dash cam, the Nextbase 612GW, comes in.

This camera is so good it won our own prestigious T3 Award as the Best Car Gadget of 2018. But it's not just us who noted its quality – it's also *Which?*'s highest-reviewed dash cam of all time.

The 612GW is able to provide the best image quality on the market thanks to the Sony Exmor R 4K sensor, capturing video at 3840x2180 resolution at 30fps, though you can also choose to record at 1080p Full HD at 60fps if you prefer. The seven-element lens keeps everything crystal clear, while providing a wide 150-degree view.

High dynamic range (HDR) recording keeps video visible even in areas of high contrast between sun and dark.

The dash cam has GPS to track your journeys (which you can review on Google Maps), as well as an Intelligent Parking Mode. The latter means it'll start recording automatically if it detects any movement (ie, from a car hit) when your vehicle is parked. And it's easy to grab the footage off the camera wirelessly using the updated Nextbase Cam Viewer app (Android, iOS).

We've got four of these amazing dash cams, worth £249.99 each, to give away to four readers! To be in with a chance of winning, enter via the site on the right.

To find out more about the 612GW, along with the other excellent dash cams in Nextbase's growing, award-winning range, head to [nextbase.com](http://nextbase.com).

To enter, simply answer the following question:

## WHAT IS THE NEXTBASE 612GW'S FIELD OF VIEW?

- A** 140 degrees
- B** 150 degrees
- C** 160 degrees

Enter today at: [bit.ly/nextbasecomp](http://bit.ly/nextbasecomp)

The competition closes 15 March 2019. By taking part, you agree to be bound by the competition rules: [futureplc.com/competition-rules](http://futureplc.com/competition-rules). Entries must be received by midnight on 15 March 2019 (UK time).

Open to UK residents aged 18 years and over. There will be four winners, entitled to one Nextbase 612GW unit each. The prize is non-transferable and non-refundable. There is no cash alternative.





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# BEST OF THE BEST

The world's best tech, all in one place

Edited by Matt Bolton



If you're looking for the very best tech available today, you've definitely come to the right place.

Best of the Best is the most useful gadget-buying guide you will ever encounter. To create it, we've extensively tested the best tech the world has to offer, to bring you rock-solid recommendations for your home life, daily commute and the tech you use all the time.

In 54 different categories, we've chosen the top four products, so you can choose one that's

just the right mix of features and budget for what you need. These rankings come from real testing by our team of experts – they're the products we'd choose for ourselves, and we can't recommend any higher than that.

Look for the links above each category that take you to the same list (plus more beyond the top four, and many more categories) at **T3.com**, where our price comparison system shows you the current best deals for every product.

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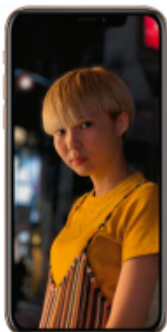


## SMARTPHONES

Find the lowest prices at:  
**t3.com/bestphone**

### APPLE IPHONE XS

From £999, [apple.com/uk](https://apple.com/uk)



The phenomenal speed, hyper-premium build quality, fantastic camera and gorgeous HDR screen with Dolby Vision support make this the world's most desirable phone.

### HUAWEI MATE 20 PRO

From £899, [huawei.com](https://huawei.com)



With a lightning-fast processor, a beautiful OLED screen, a knock-out Leica camera system, a next-gen in-display fingerprint reader, a 4,200 mAh battery, and Android 9.0 Pie, this is a marvel.

### SAMSUNG GALAXY NOTE 9

From £899, [samsung.com](https://samsung.com)



A stunning 6.4-inch screen, fast internals and advanced new S Pen digital stylus elevate this phone. The S Pen and clever split-screen app shortcuts make it a powerhouse for productivity.

### APPLE IPHONE XR

From £749, [apple.com/uk](https://apple.com/uk)



The best Apple phone in terms of bang for your buck. You get the quality and design of the XS, in a range of nice colours, with an excellent camera, and 'Liquid Retina' 6.1-inch LCD display.



## CHEAP SMARTPHONES

Find the lowest prices at:  
**t3.com/bestcheapphone**

### HONOR PLAY

£249, [hihonor.com](https://hihonor.com)



Pitched as a gaming phone, but it's just an all-round brilliant Android phone that's a stone-cold bargain. It has a high-end processor, 6.3-inch screen, good rear cameras, and a fantastic design.

### ONEPLUS 5T

£327, [oneplus.com/uk](https://oneplus.com/uk)



This is a brilliant buy thanks to the price it's dropped to, plus flagship-level specs such as the speedy Snapdragon processor, 6GB of RAM, OLED display and premium aluminium finish.

### SONY XPERIA XA1

£129, [sonymobile.com](https://sonymobile.com)



A good budget buy with a superb camera sensor (23MP!), and design that looks smarter than the price suggests. You get good performance at all times from it, and an HD screen.

### SAMSUNG GALAXY A8

£279, [samsung.com](https://samsung.com)



The A8's camera package, both front and back, is stellar, and the rounded-corner OLED screen, coupled with an eight-core processor and 4GB RAM make it feel high-end. A real bargain.



## SMARTWATCHES

Find the lowest prices at:  
**t3.com/bestsmartwatch**

### APPLE WATCH SERIES 4

From £399, [apple.com/uk](https://apple.com/uk)



This truly straddles the line between tech and fashion; it's not just the best-looking smartwatch, but its plethora of health and fitness features, plus strong app options, make it the most useful.

### SAMSUNG GALAXY WATCH

From £279, [samsung.com](https://samsung.com)



The best smartwatch for Android users brings a circular screen with great rotating bezel, and slick Tizen software that's easy to use. It looks good too, and the battery life of up to six days is ace.

### TAG HEUER CONNECTED MODULAR 45

£1,950, [tagheuer.com](https://tagheuer.com)



This beauty, mimicking a traditional mechanical watch, ticks the luxury and heritage boxes. The Modular adds some welcome customisation to the smartwatch mix, too.

### SKAGEN FALSTER 2

From £279, [skagen.com](https://skagen.com)



This is an excellent choice for thinner wrists, thanks to minimal looks and a modern slim strap style. Wear OS bring notifications, activity tracking, Google Assistant, and more smarts.





## HYBRID SMARTWATCHES

Find the lowest prices at:  
**t3.com/besthybrid**

### WITHINGS STEEL HR SPORT

**£190, withings.com**



Featuring a heart-rate monitor and the ability to track 30 different exercises, this is ideal for fitness fanatics. It's water resistant to 50 metres, and the battery lasts around 25 days.

### MONDAINE HELVETICA 1

**£195, mondaine.com**



Mondaine is most famous for producing watches which resemble its classic Swiss Railways clock, but the Helvetica range is different. It includes activity and sleep tracking.

### KRONABY SEKEL

**£445, kronaby.com**



Looking for more than a pedometer? The Sekel vibrates to alert you to notifications on your phone, and there's a button which can be programmed with IFTTT to do *loads*.

### GARMIN VIVOMOVE HR PREMIUM

**£170, garmin.com**



This hybrid has key features like heart-rate monitoring, the ability to estimate your VO2 Max, as well as wellness tools that suggest you take a moment to breathe when showing stress.



## WATCHES

Find the lowest prices at:  
**t3.com/bestwatch**

### TUDOR BLACK BAY GMT

**£2,790, tudorwatch.com**



Sporting a bold 41mm steel case and distinctive blue and burgundy bezel, the Black Bay GMT can keep track of three time zones, making it ideal for those who often travel internationally.

### TAG HEUER AUTAVIA

**£4,250, tagheuer.com**



Part of TAG's Heritage range, the Autavia was favoured by racing drivers in the 1960s. The vintage silver dial features a retro Heuer logo, and is encircled by a black aluminium bezel.

### OMEGA SEAMASTER 300

**£5,520, omegawatches.com**



The 300 recalls its iconic namesake, but has been updated to include Omega's more modern watch tech, including the anti-magnetic Master Co-Axial mechanical movement inside.

### BREITLING NAVITIMER B01 CHRONOGRAPH

**£6,460, breitling.com**



The Navitimer is Breitling's most iconic collection. This model boasts a 43mm stainless steel case with a transparent back, showing off the self-winding movement.



## WATCHES UNDER £500

Find the lowest prices at:  
**t3.com/bestwatch500**

### VICTORINOX I.N.O.X V

**£459, victorinox.com**



Having undergone 130 durability tests, this watch will stand up to anything you throw at it. The paracord strap hints at its adventurous heritage, and it's great for all wrists sizes

### HAMILTON KHAKI FIELD

**£375, hamiltonwatch.com**



This is a faithful recreation of its original 1960s forebearer and is true to Hamilton's military heritage. The 38mm stainless steel case is paired with a durable NATO strap.

### TISSOT QUICKSTER CHRONOGRAPH

**£295, tissotwatches.com**



This packs a Swiss quartz movement with 1/10 of a second counters, central 60-seconds chronograph hand, and add/split functionality. The case is finished with a sleek PVD coating.

### CHRISTOPHER WARD C5

**£495, christopherward.co.uk**



This sleek dress watch retains its classic British design cues from older models, but features a new 39mm stainless steel case with Fluid 'light-catcher' lines and 38 hours power reserve.





## TVS

Find the lowest prices at:  
**t3.com/besttv**

### SONY AF8

**From £1,799, sony.co.uk**



Marrying a perfect OLED 4K screen with Sony's picture processing prowess makes for a jaw-dropping HDR TV at 55 or 65 inches. Motion handling and upscaling of content are both brilliant.

### PANASONIC FZ952

**From £1,799, panasonic.com/uk**



Panasonic worked with Hollywood to make this OLED 4K TV's display match how movies are mastered, so the colours and depth here are unparalleled for cinematic viewing.

### LG C8

**From £1,499, lg.com**



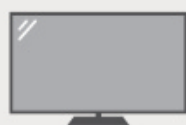
LG's OLED technology produces beautiful 4K HDR images, and makes HD videos look ace too. LG's webOS smart platform is one of the better systems around, and it's ideal for gaming.

### SAMSUNG Q9F

**From £1,799, samsung.com**



Samsung's QLED LCD tech is not only able to stand up to the quality of OLED, but even surpasses it in areas such as brightness. It means you get the full effect of HDR even in brighter rooms.



## TVS UNDER £1,000

Find the lowest prices at:  
**t3.com/besttv1000**

### SAMSUNG Q6F

**From £899, samsung.com**



A great bargain. The QLED LCD screen offers glorious colours and HDR performance, including great upscaling of SDR content. Even the sound system is pretty solid.

### SONY XF9005

**From £929, sony.co.uk**



This delivers sharp, colourful images, thanks to its Triluminos LCD display, which kills it with HDR 4K movies. Motion handling and upscaling are fantastic, too.

### SAMSUNG NU7470

**From £499, samsung.com**



This ticks almost every spec box. HDR support includes HDR10+ dynamic future-proofing, 4K images look super-sharp, colours are rich and satisfying, and its smarts are a doddle to use.

### PANASONIC FX750

**From £899, panasonic.com**



The 'Art & Interior Glass' design of this TV is a looker, as is its 4K screen. It upscales HD to UHD excellently, and HDR looks glorious. Motion handling is especially good for sports action.



## PROJECTORS

Find the lowest prices at:  
**t3.com/bestprojector**

### ACER V7850

**£1,999, acer.com**



Acer really hit the sweet spot here: small enough to fit on a coffee table, whisper-quiet in operation, and yet still produces a bright, crisp HDR 4K picture of 70 to 110 inches (at 3.5m).

### OPTOMA UHD40

**£999, optoma.co.uk**



4K resolution and HDR in a projector for this price is hard to beat. It doesn't quite have the pop and HDR richness of more expensive sets, but it's way beyond HD projectors at the same price.

### OPTOMA UHZ65

**£4,499, optoma.co.uk**



This is very aimed at the proper AV enthusiast, but laser projection at this price makes it worth it for anyone. 4K HDR video is supremely rich, and it can hit 120 inches from just 4m.

### EPSON EH-TW6700W

**£999, epson.co.uk**



If you're happy with Full HD resolution, this is the best option, partly thanks to a super-easy setup process. The image quality is good, you just don't get the future-proofing of HDR and 4K.





## SOUNDBARS

Find the lowest prices at:  
**t3.com/bestsoundbar**

### SONOS BEAM

**£349, sonos.com**



If it were just a soundbar, the Beam's great audio would still make it top – but with Amazon Alexa, Apple AirPlay 2 and support for a billion streaming services, it's fantastically flexible.

### Q ACOUSTICS M3

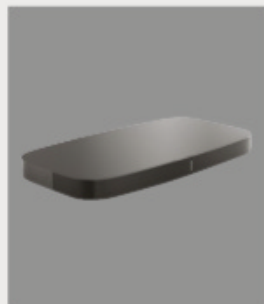
**£229, qacoustics.co.uk**



Want superb sound without a big price and unnecessary extras? Q Acoustics' M3 combines great simplicity and great sound. Impressive, affordable, and it wasn't hit with the ugly stick.

### SONOS PLAYBASE

**£549, sonos.com**



There's no HDMI and the setup's a pain, but this Sonos soundbase is sublime. The sound does detail as well as drama, it looks great and it works brilliantly in a Sonos multi-room environment.

### SONY HT-ST5000

**£1,195, sony.co.uk**



Sony's powerful, precise and punchy soundbar is the best way to add Dolby Atmos to your system, and while it doesn't deliver true over-the-head audio it does a good simulation of it.



## STREAMERS

Find the lowest prices at:  
**t3.com/beststreamer**

### ROKU STREAMING STICK+

**£59, roku.com**



The Swiss Army Knife of streaming delivers 4K HDR, isn't locked to a particular ecosystem, has tons of available apps and is a joy to use. It's the best streamer for many people.

### CHROMECAST ULTRA

**£69, store.google.com**



The Chromecast Ultra is a receiver for phones and laptops and depends on them for control and content – but it's simple, versatile and compatible with iOS, Android, Windows and Mac.

### AMAZON FIRE TV STICK 4K

**£34, amazon.co.uk**



4K HDR for under £35 isn't to be sniffed at. It's best suited to Prime subscribers and Google apps are absent, but it's a very capable and affordable streamer for TV and movies.

### APPLE TV 4K

**£179, apple.com/uk**



iTunes has the biggest source of 4K HDR and Dolby Atmos movies, and lots of other services have apps here too. You can also easily stream to it from Macs and iOS devices.



## GAMES CONSOLES

Find the lowest prices at:  
**t3.com/bestconsole**

### MICROSOFT XBOX ONE X

**£449, xbox.com**



With 4K, Dolby Atmos, Ultra HD Blu-ray and a fairly compact profile this is the best Xbox ever. It's even more powerful than the PS4 Pro and also a great home entertainment hub.

### SONY PLAYSTATION 4 PRO

**£349, playstation.com**



It's still overkill if you don't have a 4K TV, but with 2160p HDR gaming, the PS4 Pro delivers incredible visuals and is smoother and faster than its non-Pro siblings.

### NINTENDO SWITCH

**£279, nintendo.co.uk**



We love the Switch, which brings Nintendo's great gaming pedigree to genuinely stylish, premium-grade hardware. Forget the specs: it's all about the sheer joy of gaming.

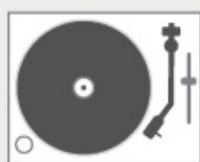
### MICROSOFT XBOX ONE S

**£207, xbox.com**



The S is smaller, whiter and much cheaper than its big brother, and while you don't get its sibling's super-powered specs you still get Ultra HD Blu-ray. A fine home entertainment hub.





## TURNTABLES

Find the lowest prices at:  
**t3.com/bestturntable**

### PRO-JECT DEBUT CARBON

**£430, project-audio.com**



Pro-Ject makes great turntables with all sorts of features; we like this slightly pricier model in the range. The addition of an acrylic platter helps it punch way above its weight in sonic performance.

### REGA PLANAR 1

**£250, rega.co.uk**



Rega makes record players that need a little care in setting up, but once done, make a beautiful noise. The quality of this, its cheapest model, is extraordinary for the price.

### McINTOSH MT2

**£4,995, jordanacoustics.co.uk**



This beautifully finished deck is perfect for vinyl addicts. It'll wring an incredible amount of detail out of your records, without needing to be plugged into a crazily pricey system.

### AUDIO TECHNICA AT-LP3

**£150, audio-technica.com**



After something more basic? You can't go wrong with this turntable. £150 nets you easy setup, mellifluous sound and something that is recognisably a record player, not a suitcase.



## STREAMING DACS

Find the lowest prices at:  
**t3.com/bestdac**

### YAMAHA WXAD-10

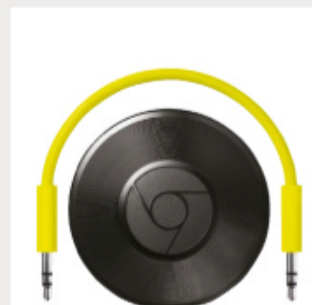
**£120, yamaha.co.uk**



This Yamaha lets you stream everything from Bluetooth to hi-res audio, with support for AirPlay, most of your favourite streaming services and, of course Yamaha's own MusicCast.

### GOOGLE CHROMECAST AUDIO

**£30, google.co.uk**



A somewhat less audiophile solution perhaps, but so simple and so cheap. Suddenly, all your Android phone's music (plus Google's apps on iOS) can be beamed to your audio setup.

### ARCAM RDAC

**£320, arcam.co.uk**



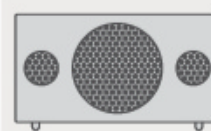
For those who stream via AirPlay and UPNP, this is ever so hard to beat. It's essentially a very high quality DAC, and gives a real boost to any decent quality audio files beamed its way.

### IFI NANO iONE

**£199, ifi-audio.com**



Just want to wring the very most out of Bluetooth? This fag-packet-sized DAC is your new friend. Even the shonkiest MP3 gets a polish, and your higher quality files and streams will shine.



## MULTI-ROOM SPEAKERS

Find the lowest prices at:  
**t3.com/bestmultiroom**

### SONOS ONE

**£199, sonos.co.uk**



Sonos One is compatible with every music service ever, multi-room connectivity is fab, and Alexa comes built in as an added bonus. Many pricier Sonos speakers then await you...

### NAIM MU-SO

**£900, naimaudio.com**



Although often thought of as a standalone speaker, Naim's app allows for easy multi-room japes, as does AirPlay 2, which it now supports. It's beautiful to look at *and* listen to.

### ORBITSOUND DOCK E30

**£399, orbitsound.com**



This has a wireless charger on top, and supports AirPlay, Spotify Connect and Bluetooth. Its clever Airsound tech makes music sound stereo anywhere in the room – no more 'sweet spot'.

### SONOS PLAY 5

**£499, sonos.com**



You get big, accurate and clean sound from Sonos' top speaker, and it looks great in the flesh, too. The slick Sonos experience is here, of course, including AirPlay support and Alexa control.



## BLUETOOTH SPEAKERS

Find the lowest prices at:  
**t3.com/bestbluetooth**

### AUDIO PRO ADDON C3

**£220, audiopro.com**



A fine blend of classic Bluetooth portability, high quality audio and Scandie style. Thanks to Wi-Fi, you can stream higher quality sounds indoors, then revert to Bluetooth in the garden.

### ULTIMATE EARS MEGABOOM 3

**£169, ultimateears.com**



The best waterproof speaker – it even floats – offers 20 hours of battery life and a hefty sound, perfect for outdoor parties. It works great for kitchen audio duties, too.

### CAMBRIDGE AUDIO YOYO M

**£300, cambridgeaudio.com**



The best Bluetooth solution for audiophiles' audio files, this is, as you can see, a stereo pair. As such it's more like a classic hi-fi system, but with the convenience of wirelessness.

### BOSE SOUNDLINK REVOLVE

**£149, bose.co.uk**



This excellent value, high quality speaker boasts impressively realised, truly 360-degree sound. Easily portable, although not ruggedised or waterproof, it works brilliantly everywhere.

## BLUETOOTH HEADPHONES

Find the lowest prices at:  
**t3.com/bestwireless**

### AKG Y50BT

**£120, uk.akg.com**



If you want an on-ear alternative to the Marshalls, these 'phones from AKG remain a great option. The sound is punchy and the styling is pretty cool without trying too hard.

### OPTOMA NUFORCE BE LIVE5

**£89, optoma.co.uk**



These slick earphones offer incredible sound for the price, taking everything from pop to classical in their stride. They're made to stay comfortable for their eight-hour battery life.

### OPTOMA NUFORCE BE SPORT4

**£90, optoma.co.uk**



The Sport4 are designed for running and gymming – and very good they are too. By some wicked sorcery, Optoma has managed to make them sound great, fit perfectly, and come in under £100.

### MARSHALL MONITOR BLUETOOTH

**£149, marshallheadphones.com**



Most Marshall cans sound good, but these ones offer noticeably better comfort. The sound is, as you'd imagine, well suited to all things rockin', but it can handle subtler sounds.

## TRUE WIRELESS HEADPHONES

Find the lowest prices at:  
**t3.com/besttruewireless**

### JABRA ELITE 65T

**£130, jabra.co.uk**



Jabra has solved most of the problems that bedevilled earlier true wireless buds. Sound is great, connectivity is rock solid, the fit is secure but comfortable, and they're discreet.

### RHA TRUECONNECT

**£150, rha-audio.com**



Even more comfy, though perhaps slightly less secure, than the Jabras, these also offer best-in-class audio. Aside from a slightly odd carry case, these are textbook true wireless buds.

### APPLE AIRPODS

**£130, apple.com**



Apple's wireless 'phones may not sound as good as some of the newer rivals, but they still beat them all for battery life, ease of use and often comfort. They work best with iOS, of course.

### BOSE SOUNDSPORT FREE

**£169, bose.co.uk**



These protrude quite a way out of the ears (and pick up a lot of wind noise as a result), but they nail it when it comes to comfort, sound quality and reliable wireless connectivity.



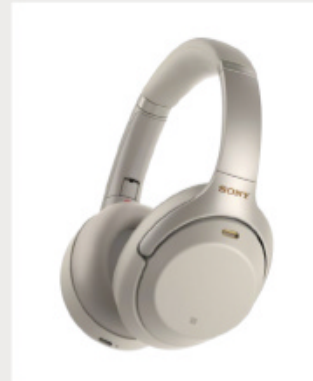


## NOISE-CANCELLING HEADPHONES

Find the lowest prices at:  
**t3.com/bestnoisecancelling**

### SONY WH-1000XM3

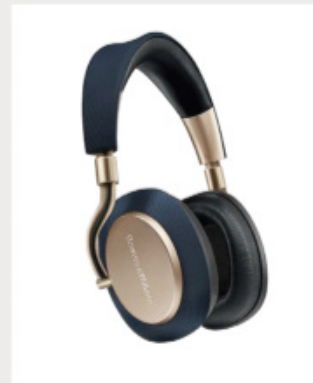
**£329, sony.co.uk**



With 30-hour battery life, very quick charging, Google Assistant, amazing bass response and an incredibly clever noise cancellation processor, these are superb headphones.

### B&W PX

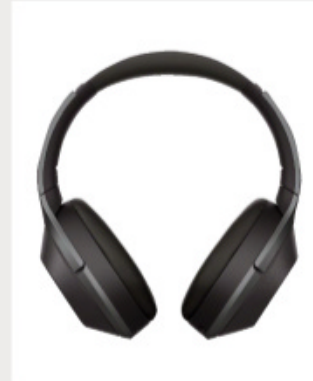
**£329, bowers-wilkins.co.uk**



With useful motion-sensing features, the stylish PXes have variable noise cancelling and accurate B&W sound. We think the Sonys are slightly better, but you may well disagree.

### SONY WH-1000XM2

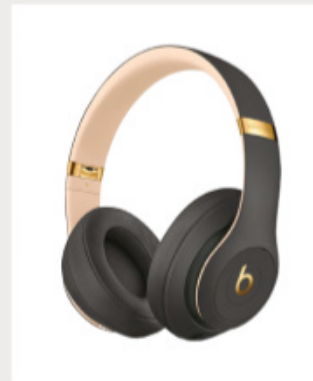
**£299, sony.co.uk**



With the XM3 model replacing these, you might be able to find them cheap – and if you can, you'll get impressive noise cancellation and brilliant sound in a comfortable body. They're still ace.

### BEATS STUDIO3 WIRELESS

**£299, apple.com**



These Beats deliver exceptional noise cancellation that reacts very well to all kinds of environments, they get three hours of charge in 10 minutes and they're the best sounding Beats so far.



## WIRED IN-EAR HEADPHONES

Find the lowest prices at:  
**t3.com/bestinear**

### KEF M100

**£99, uk.kef.com**



A refreshing alternative to over-bassy in-ear phones, the M100s deliver crisp, clear, defined and thoroughly involving sound, although you might need to push the volume up a bit.

### KLIPSCH R6i II

**£99, klipsch.com**



A more comfortable alternative to in-ear monitors, the R6i IIs deliver lots of bass and a lively, engaging sound. It's maybe a little bass-heavy for older music, but it's great for modern stuff.

### FLARE AUDIO FLARES JET 3

**£89, flareaudio.com**



Maintaining the quality of the Flares Pro (see Bluetooth headphones), removing the DAC element and thereby slashing the price, these audiophile in-ear headphones are a tremendous option.

### SOUNDMAGIC E11C

**£49, soundmagicheadphones.com**



Can we really be recommending a pair of headphones for under £50? Yes we can! The grown-up sound quality and exemplary comfort of the 11c make them the sonic bargain of the year.



## WIRED OVER-EAR HEADPHONES

Find the lowest prices at:  
**t3.com/bestoverear**

### BOWERS & WILKINS P9 SIGNATURE

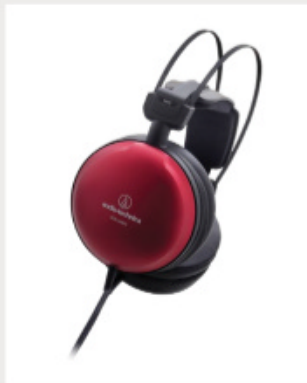
**£699, bowers-wilkins.com**



The P9s don't just sound wonderful with hi-res audio. They do a stellar job with poor quality music, such as compressed MP3s. You can have any colour you like as long as it's brown.

### AUDIO TECHNICA ATH-A1000Z

**£379, audiotechnica.com**



Forget about MP3s or EDM: these headphones don't flatter or sacrifice sound quality for bass. But if you give them a good amp and a good sound source they do incredible things.

### SENNHEISER MOMENTUM 2.0 AROUND EAR

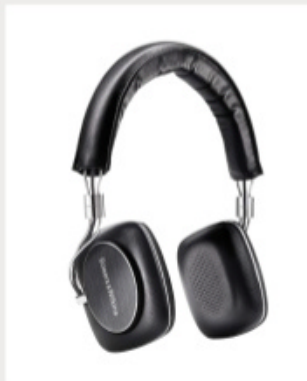
**£169, sennheiser.com**



The best sub-£200 over-ear headphones aren't too picky about sonic sources. They don't quite have the frequency range of our more expensive picks but they're well built and good for the price.

### BOWERS & WILKINS P5 SERIES 2

**£99, bowers-wilkins.com**



The little sisters of the mighty P9s deliver a beautifully warm and spacious sound for a lot less money, and their closed backs mean they're less likely to annoy other people when you commute.





## LAPTOPS

Find the lowest prices at:  
**t3.com/bestlaptop**

### MICROSOFT SURFACE BOOK 2

**£1,149, microsoft.com**



Available in 13- or 15-inch sizes, with a 3:2 screen that gives you more height than other laptops, and plenty of power, this is a light and fast machine that's also really flexible. Perfect.

### HUAWEI MATEBOOK X PRO

**£1,299, consumer.huawei.com**



This marries style and function, delivering incredibly capable internal hardware in a form factor that also matches Apple's MacBook range in terms of looks and feel.

### DELL XPS 13

**£1,194, dell.com**



The Dell XPS 13 is thinner and more powerful than ever. Up to 1TB of SSD storage, 16GB of RAM, and powerful Intel Core i7 processors help make it a high quality all-rounder.

### ASUS ZENBOOK FLIP S UX370

**£899, asus.com/uk**



A combination of quality internal hardware featuring an Intel Core i7, 16GB of RAM, and 512GB SSD, a super thin and light build, and a super sharp 13.3-inch Full HD touchscreen.



## 2-IN-1 LAPTOPS

Find the lowest prices at:  
**t3.com/best2in1**

### MICROSOFT SURFACE BOOK 2

**£1,149, microsoft.com**



So good that it tops both our best laptop and best 2-in-1 laptop buying guides, the SB2 delivers an incredibly premium, fantastically portable, and jaw-droppingly versatile system.

### MICROSOFT SURFACE PRO 4

**£714, microsoft.com**



The Surface Pro 4 is still one of the best 2-in-1 laptops and tablets going, largely thanks to its bright and clear display, slim dimensions and Intel Core-series processor power.

### HP ENVY X2

**£699, hp.com**



The big sell here is the monstrous battery life, with up to 22 hours on one charge. This is because it makes use of ARM architecture, with a Snapdragon 835 CPU powering everything.

### LENOVO YOGA 900S

**£599, lenovo.com**



Lenovo's Yoga 900S stands out from the crowd. Weighing in at a svelte 1kg, this 12.5-inch laptop is manageable however you hold it, and is a very comfortable couch companion.



## TABLETS

Find the lowest prices at:  
**t3.com/besttablet**

### APPLE IPAD PRO 12.9

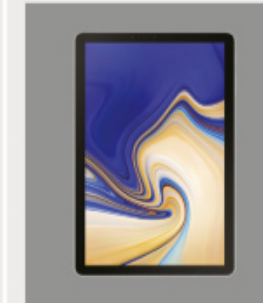
**£969, apple.com/uk**



The Apple iPad Pro 12.9 is unbelievably powerful and slick, with an excellent screen, thin and compact design, great battery life and support for the new Apple Pencil. Pricey, but worth it.

### SAMSUNG GALAXY TAB S4

**£495, samsung.com**



The finest Android tablet, this delivers a system with a sharp OLED screen, S Pen stylus, excellent audio credentials, powerful internals, and a neat laptop-aping DeX mode.

### APPLE IPAD 9.7-INCH

**£319, apple.com/uk**



The doesn't have the TrueTone screen and stereo speakers of the iPad Pro, but its fast processor, slick support for Apple Pencil and solid rear 8MP camera make it a quality all-rounder.

### MICROSOFT SURFACE GO

**£379, microsoft.com**



While Windows 10 in tablet mode remains a 'mixed' experience, its versatility is impressive and the ergonomics of Microsoft's new tablet computer are second to none.



## GAMING LAPTOPS

Find the lowest prices at:  
**t3.com/bestgaming**

### ASUS ROG ZEPHYRUS

**£2,199, asus.com/uk**



It's the stunning level of engineering that has gone into the Zephyrus, along with monstrously powerful Nvidia GTX 1080 internal hardware, that make it the king of all the gaming laptops.

### MSI GS65 STEALTH THIN 8RF

**£1,699, msi.com**



This gaming laptop manages to pack an Nvidia GeForce GTX 1070 GPU, Intel Core i7 CPU and 16GB of RAM into a very portable package. Its Full HD, wide-view 144Hz panel is top rate, too.

### ASUS ROG STRIX GL502

**£1,739, asus.com/uk**



A cracking all-rounder that delivers big gaming bang at a very attractive mid-tier price point. You get quality internals, including up to a GeForce GTX 1070, Intel Core i7 and 16GB of RAM.

### ALIENWARE 13 R3

**£1,100, dell.com**



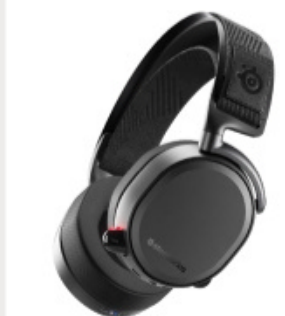
Configurable with a gorgeous QHD 2560x1440 OLED screen, as well as some tasty internal hardware, the Alienware 13 R3 delivers real gaming power in a super portable package.

## GAMING HEADSETS

Find the lowest prices at:  
**t3.com/bestheadset**

### STEELSERIES ARCTIS PRO WIRELESS

**£299, steelseries.com**



The SteelSeries Arctis Pro Wireless is simply awesome. The dual-wireless audio system that allows for both 2.4GHz and Bluetooth simultaneously is especially fantastic.

### LUCIDSOUND LS35X

**£148, lucidsound.com**



For quality wireless audio on Xbox One, gamers should look here: it delivers excellent audio reproduction and also connects directly to the console without any dongles or cables.

### TURTLE BEACH ELITE PRO 2 + SUPERAMP

**£219, turtlebeach.com**



Turtle Beach's talent is very evident in its Elite Pro 2 headset with SuperAmp. Excellent audio reproduction is paired with a modern, comfortable design and plenty of advanced features.

### AUDIO-TECHNICA ATH-ADG1X

**£299, audiotechnicashop.com**



Price tag aside, this is pretty much perfect. High-fidelity audio is delivered by excellent 53mm drivers, while a 3D Wing support system makes the headset incredibly comfortable to wear.

## 4K MONITORS

Find the lowest prices at:  
**t3.com/best4kmonitor**

### EIZO COLOREDGE CG318-4K

**£3,699, eizoglobal.com**



The money-no-object best 4K monitor in the world delivers a simply stunning package, with not just full sRGB coverage, but 99% of the Adobe RGB spectrum and 98% DCI-P3.

### DELL ULTRASHARP UP3216Q

**£1,091, dell.com**



Dell's high-end 31.5-inch 4K display packs in a lot of professional-grade features for superb colour accuracy. It hits 99% Adobe RGB coverage and 87% DCI-P3, delivering great picture quality.

### ASUS ROG SWIFT PG27AQ

**£744, asus.com/uk**



Here you get a 27-inch 4K IPS panel with a 60Hz refresh rate, 10-bit colour accuracy and G-Sync as well – great for keeping your GPU and monitor in total synchronicity while you play.

### PHILIPS BRILLIANCE BDM4065UC

**£519, philips.co.uk**



This gigantic 40-inch 4K PC monitor is nearing the end of its life, so is available at a low price point. Because the screen is based off VA-IPS panel technology, it presents extremely good contrast.





## DRONES

Find the lowest prices at:  
**t3.com/bestdrone**

### DJI MAVIC AIR

**£769, store.dji.com**



The Mavic Air is a super-portable 4K camera drone. Video quality from the camera mounted on a three-axis gimbal is excellent, and it's so simple to control that beginners grasp it fast.

### DJI MAVIC 2 PRO

**£1,349, store.dji.com**



While this doesn't offer the same size to power ratio as the Air, its 4K video and stills capture are sensational, thanks to an on-board Hasselblad camera and fantastic stabilisation.

### DJI MAVIC 2 ZOOM

**£1,099, store.dji.com**



The alter ego of the Mavic 2 Pro, the cheaper Zoom comes with a different camera, with a 2x optical zoom lens. Along with the folding design and long battery life, it's really flexible.

### PARROT ANAFI

**£629, parrot.com**



At just 320g, one of the lightest camera-equipped drones you can buy. Flight time is great, and the drone is near-silent in the air, which is appreciated. The camera and zoom are amazing.



## ACTION CAMERAS

Find the lowest prices at:  
**t3.com/bestactioncam**

### GOPRO HERO7 BLACK

**£379, gopro.com**



The waterproof Hero7 Black makes capturing pro-looking shots easier, thanks to HyperSmooth electronic stabilisation. 4K image quality is excellent, and there's slick 60fps recording.

### SONY RX0

**£800, sony.co.uk**



Packing a one-inch sensor, with a Zeiss lens bolstering the image quality further, in and out of the water. Other ace features include super-slow video and 15MP stills capture.

### GOPRO HERO5 BLACK

**£249, gopro.com**



While it doesn't match the Hero7 for specs, the Hero5 is a solid GoPro for those on a budget. It has a two-inch touchscreen display, and records video up to 4K at 30fps, with 12MP stills.

### TOMTOM BANDIT

**£257, amazon.co.uk**



A rugged action camera that thrives in extreme situations. The low profile is ideal for helmet mounting (it's compatible with GoPro mounts), with video automatically edited for you.



## CHEAP ACTION CAMERAS

Find the lowest prices at:  
**t3.com/bestcheapaction**

### GOPRO HERO7 WHITE

**£179, gopro.com**



The wallet-friendly Hero7 White borrows premium features from the Hero7 Black. Ideal for part-time adrenaline junkies needing a simple HD camera that shoots YouTube-ready footage.

### YI 4K

**£119, yitechnology.com**



Captures high-quality footage even in low light, thanks to an LCE seven-layer all-glass lens and Sony Exmor-R IMX377 sensor. It shoots 4K at 30fps; buy a separate case for waterproofing.

### OLFI ONE.FIVE WHITE

**£99, olficamera.com**



This camera might lack 4K, but 1080p/60fps and 720p/120fps video, plus 16MP stills, are plenty for weekend warriors. The One.Five White comes with a 30m waterproof case.

### KAISER BAAS X4

**£89, amazon.co.uk**



This rubbery cam has ridged sides to enhance grip. Location of the controls is odd, but move past that and it offers 4K video at 30fps. Waterproof to 40m with the included case.



## DSLR CAMERAS

Find the lowest prices at:  
**t3.com/bestdslr**

### NIKON D850

**£3,299, nikon.co.uk**



With a high-resolution 45.4 megapixel sensor, 4K video capture, a 153-point AF system, and a sturdy body, you'll never be disappointed with what the D850 can create for you.

### CANON EOS 7D MARK II

**£1,430, canon.co.uk**



Trading up from an entry-level camera? The 7D Mark II is the camera of your dreams. A superb all-rounder with a 20.2-megapixel sensor and a host of features to suit a variety of needs.

### NIKON D500

**£1,699, nikon.co.uk**



This solidly built camera is the perfect choice for those who like to shoot a little bit of everything, thanks to a brilliant autofocus system and glorious image quality from its 20MP sensor.

### CANON EOS 800D

**£559, canon.co.uk**



The 800D inherits specs from higher up Canons, including a snappy 45-point AF system. There's also an excellent articulating screen with fast Live View. It's perfect for DSLR beginners.

## MIRRORLESS CAMERAS

Find the lowest prices at:  
**t3.com/bestmirrorless**

### NIKON Z 7

**£3,399, nikon.co.uk**



With a full-frame 45.7 megapixel sensor, a superb 493-point AF system, a 3.2-inch touch-sensitive screen and a stunning viewfinder, the Z 7 is simply a fabulous camera.

### SONY A9

**£3,699, sony.co.uk**



The A9 is expensive but earns every penny by packing an incredible 24.3MP full-frame sensor capable of 20fps shooting with tracking autofocus the whole way. It's a technical marvel.

### FUJIFILM X-T3

**£1,299, fujifilm.eu/uk**



There's plenty of things to like about the X-T3, including great autofocus, fast frame rates, an impressive array of 4K video features and, this being Fujifilm, beautiful retro looks.

### CANON EOS R

**£2,349, canon.co.uk**



The EOS R is a classic Canon, but adds a couple of new twists, such as the customisable touch-sensitive multi-function bar. The image quality is on par with the 5D Mark IV DSLR.

## COMPACT CAMERAS

Find the lowest prices at:  
**t3.com/bestcompact**

### SONY RX100 VI

**£1,150, sony.co.uk**



The ultimate in pocket-sized image quality. A large one-inch sensor is joined by an ace 24-200mm lens, retractable viewfinder, tilting touchscreen and absolutely glorious picture quality.

### PANASONIC TZ200

**£629, panasonic.com**



This might be the ideal travel companion, with a versatile zoom lens up to 15x, and a fantastic one-inch sensor that captures bright, sharp images. It's also stylish and pocket-friendly.

### FUJIFILM X100F

**£1,199, fujifilm.eu/uk**



The Fujifilm X100F is as beautiful as it is capable. If the retro look floats your boat, then the X100F is a thing to behold. It's compact, but packs a large APS-C sensor and a lovely 35mm f/2.0 lens.

### CANON G7X MARK II

**£499, canon.co.uk**



Canon's compact cameras are a great alternative to your DSLR when travelling light. This is the sweet spot in the range, with a great balance between small size and a range of features.





## SAT-NAVS

Find the lowest prices at:  
**t3.com/bestsatnav**

### TOMTOM GO 6200

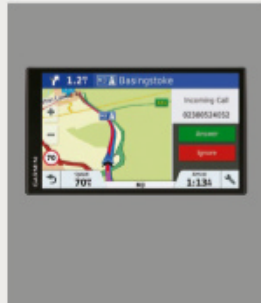
**£299, tomtom.com**



Packed with features but never fiddly, and with Google and Siri support, this is a really good mobile companion too. The price includes lifetime updates via Wi-Fi for most features.

### GARMIN DRIVESMART 61 LMT-S

**£169, garmin.com**



This sleek sat-nav has substance to match its style, with a big display, lifetime traffic and maps (for Europe) and useful points of interest information courtesy of TripAdvisor.

### TOMTOM GO VIA 53

**£179, tomtom.com**



This more affordable TomTom only gives you three months of camera locations, but you can get lifetime map updates via Wi-Fi and it's compatible with Siri and Google Now.

### MIO MIVUE DRIVE 65 LM

**£199, mio.com**



Why buy a sat-nav and a separate dash cam when you can get them both in one device? With lifetime updates, Bluetooth and good safety features, the MiVue is a pretty good mid-range buy.



## DASH CAMS

Find the lowest prices at:  
**t3.com/bestdashcam**

### GARMIN DASH CAM 55

**£119, garmin.com**



The Garmin is essentially a GoPro for the car with a compact case, great video quality in all conditions and a useful companion app. The only real downside is the lack of a touchscreen.

### NEXTBASE 612GW

**£249, nextbase.com**



If image quality is vital, this is the dash cam for you. It's big and chunky and the app appears a little flaky, but it's a simple and high-quality 4K camera that's easy to install and use.

### THINKWARE F800 PRO

**£219, thinkware.com**



With an almost invisible design, time-lapse recording and a great night mode, this is a good stealthy option if you're worried more about vandalism or theft than your fellow drivers.

### MIO MIVUE C330

**£69, mio.com**



The Mio delivers 1080p recording at 30fps and is widely available for £70 or less, making it a great first dash cam. Its night mode isn't brilliant but it's an otherwise impressive budget buy.



## ELECTRIC BIKES

Find the lowest prices at:  
**t3.com/bestebike**

### BROMPTON ELECTRIC

**£2,595, brompton.com**



Ebikes aren't just about tech. They should be fun too. The Brompton is a hoot, and if you're a commuter there's no better: it munches miles and then folds to an incredibly tiny size.

### GTECH EBIKE CITY

**£995, gtech.co.uk**



This is a superb urban ebike that's ideal for beginners or anyone on a budget. It's simple, affordable and doesn't compromise on anything vital. Not bad for a hedge trimmer brand.

### VANMOOF ELECTRIFIED S2

**£2,398, vanmoof.com**



If you want the Electrified S2, move quickly: this price is for early orders. It's packed with anti-theft measures, handles brilliantly and looks ace. Turbo boost is great for traffic lights.

### VOLT PLUS

**From £1,599, voltbikes.com**



With disc brakes, eight-speed gearing, front suspension, a 250W motor powerful enough to handle hills, plus a throttle to take you up to 15mph, this is a lot of ebike for your money.



## SMART SPEAKERS

Find the lowest prices at:  
**t3.com/bestsmart**

### ECHO PLUS

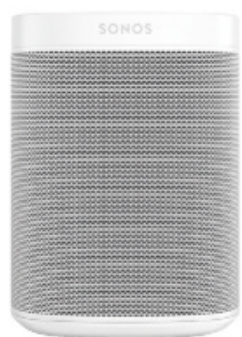
**£139, amazon.co.uk**



Thanks to its integrated Zigbee-compliant smart home hub, the Plus is a great smart home starter. Never pay the RRP, though: Amazon discounts Echos every time it has a sale.

### SONOS ONE

**£199, sonos.com**



The Sonos One is a superb standalone speaker with integrated Alexa, but the real selling point is its flexibility: use it as part of a stereo pair or in a multi-room Sonos audio system.

### ECHO SPOT

**£119, amazon.co.uk**



If you want a smart speaker with a screen, the Spot is the one to go for. The speaker bit isn't spectacular but there's an audio out and Bluetooth. It's an excellent smart home device.

### APPLE HOMEPOD

**£319, apple.com/uk**



Expensive? Possibly. Apple-centric? Indubitably. But if you don't mind the focus on Apple Music, the HomePod sounds spectacular. You can also pair it to create a stunning stereo system.

## SMART BULBS

Find the lowest prices at:  
**t3.com/bestbulb**

### PHILIPS HUE

**From £59, philips.co.uk**



Hue dominates the smart lighting sector for good reason: it's a superb system with the widest range of bulbs and a simple, useful app. Rivals may be cheaper but they can't compete with Hue's variety.

### LIFX

**From £19, lifx.com**



If you fancy a Hue system but don't want to spend so much, LIFX has a strong product range and integrates with your favourite personal digital assistant. Philips still wins, but only just.

### IKEA TRÅDFRI

**From £13, ikea.com**



Ikea's Zigbee-compatible system doesn't have the range of Hue, but if you prize control over colour options it's stellar value for money and has some great controllers and dimmers.

### TP-LINK SMART LIGHT BULB

**£19.99, tp-link.com/uk**



With Alexa and Google Home compatibility, hub-free operation and a decent smartphone app the TP-Link range is a limited but effective alternative to the better known names in lighting.



## SMART THERMOSTATS

Find the lowest prices at:  
**t3.com/bestthermostat**

### TADO SMART THERMOSTAT

**£99, tado.com**



Tado is very sociable: it works with 95% of the systems out there. It's flexible, clever and supports a wide range of accessories too. Price cuts have made it even more enticing.

### NEST LEARNING THERMOSTAT

**£179, nest.com**



Nest made smart thermostats sexy and this third-gen model looks great. It's simple to use with good Google Home and Amazon Echo integration, but a tad pricey, especially with installation.

### HIVE HEATING CONTROL

**£179, hivehome.com**



Imagine: British Gas in 'exciting' shocker. Hive is great: it's affordable, works well, and is part of a larger smart home system that includes bulbs and security options. This is an ideal way to jump in.

### ECOBEE 4

**About £167, ecobee.com**



With wide compatibility, support for multiple temperature sensors and built-in Alexa the Ecobee is great for smart home heating, but it's currently hard to find without high import prices.





## SMART PLUGS

Find the lowest prices at:  
**t3.com/bestplug**

### BELKIN WEMO INSIGHT SWITCH

**£49, belkin.com**



Belkin's premium smart plug rocks. It works with services from Amazon, Apple and Google, and can monitor your energy usage as well as enable you to control appliances via your phone.

### HIVE ACTIVE PLUG

**£39, hivehome.com**



Similar to Belkin, Hive can turn sockets on/off via your phone, and create schedules. It also works with Alexa. You need a Hive Hub (£80) to use the Active Plug, though.

### D-LINK DSP-W115

**£29, eu.dlink.com/uk**



A simple and compact smart plug that offers a lot for the price. Operate it from your phone, set a schedule, and operate it through Amazon Alexa, Google Assistant or IFTTT.

### EVE ENERGY

**£44, evehome.com**



Although it only works with Apple gear, it's powerful and work with geofencing, triggers and scenes. Use an iPad, HomePod or Apple TV as intermediary for control from anywhere.



## SECURITY CAMERAS

Find the lowest prices at:  
**t3.com/bestsecurity**

### NEST CAM IQ OUTDOOR

**£329, nest.com/uk**



This has excellent image quality, facial recognition, a 4K image sensor and person tracking. It also has IP65 weatherproofing, and can operate in temperatures from -40°C to 45°C.

### NETGEAR ARLO PRO 2

**From £259, arlo.com/uk**



Available in multi-packs to extend coverage of your home, the Arlo Pro 2 wows with wireless operation, two-way audio, 1080p HD video, weather resistance and a built-in security siren.

### LOGI CIRCLE 2 WIRED

**From £169, logitech.com**



No security cam is as fun as this. For example, it preps 'day brief' videos showing a sped-up version of the day's action. There's also two-way audio, fast zoom and an adjustable view.

### HIVE VIEW

**£189, hivehome.com**



We wouldn't recommend the Hive View as a 'proper' security camera, but if you want a very attractive camera for monitoring pets, and one that can also alert you to burglars, this is ideal.



## ROBOT VACUUMS

Find the lowest prices at:  
**t3.com/bestrobotvac**

### NEATO BOTVAC D7 CONNECTED

**£799, neatorobotics.com**



The current pinnacle of robot cleaning tech, with a range of smart cleaning and mapping features. Robust suction, turbo mode and an improved brush system help deliver a powerful clean.

### NEATO BOTVAC CONNECTED

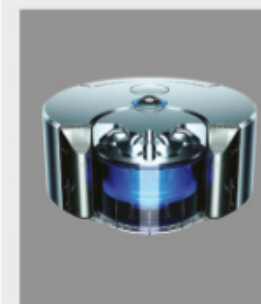
**£499, neatorobotics.com**



This is pretty old now, which means you can often find it much cheaper than the RRP, but still with great path-finding and suction, and a low profile for getting under furniture.

### DYSON 360 EYE

**£799, dyson.co.uk**



Powerful cleaning, but sometimes struggles with squeezing under furniture with a low clearance. However, there are plenty of connected functions and the app is great.

### iROBOT ROOMBA 980

**£899, irobot.co.uk**



It'll fit under most sofas, with multi-surface brushes for hard floors and carpets. Cleaning isn't as good as with the others, but it does have a decent camera and navigation system.





## CORDLESS VACUUMS

Find the lowest prices at:  
**t3.com/bestcordlessvac**

### VAX BLADE 2 MAX

**£249, vax.co.uk**



This does everything a Dyson does, for less. It's powerful enough to do a good job on carpet and hard floors alike, although its shape and bulk make it less effortless as a handheld.

### DYSON V8 ABSOLUTE

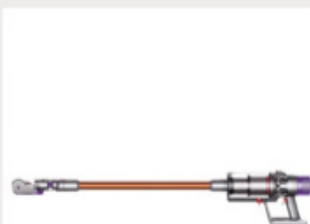
**£349, dyson.co.uk**



It might not have the sheer awesome power of the V10, but it's pretty close. The V8 is still ahead of most rivals and it's still a smart buy unless you need to vacuum every room of a mansion.

### DYSON CYCLONE V10 ABSOLUTE

**£449, dyson.co.uk**



You get what you pay for: the V10 is the state of the cordless vacuum art with unprecedented power, better battery life and a bigger bin. It's a little heavier than the Dyson V8, though.

### BOSCH BCS122GB UNLIMITED

**£439, bosch-home.co.uk**



The Bosch has two batteries, so you can clean for much longer: up to 50 minutes in total. Cleaning performance is great, although the included duster tool is pretty awful.



## WASHING MACHINES

Find the lowest prices at:  
**t3.com/bestwashing**

### AEG 9000 SERIES L9FEC966R

**£899, aeg.co.uk**



AEG delivers superb flexible cleaning, effective water softening and a steam-cleaning feature to reduce your ironing pile. It's quiet, efficient and environmentally friendly, too.

### BOSCH SERIE 4 WAN28201GB

**£450, bosch-home.co.uk**



More affordable but by no means a poor relation, this Bosch offers great engineering quality and energy efficiency. Numerous splendid cleaning programmes are delivered in an unfussy way.

### AEG 7000 SERIES L7FEE865R

**£529, aeg.co.uk**



Quiet, easy to use and incredibly effective, this more affordable AEG model is also really simple, with a clearly readable touchscreen interface that's a joy to use.

### MIELE WCR860WPS

**£1,499, miele.co.uk**



Here, your hard-earned wedge buys you a feature-packed machine of exceptional, long-lasting quality. The TwinDos automatic detergent system is great, and there's an ace 20-minute wash.



## DISHWASHERS

Find the lowest prices at:  
**t3.com/bestdishwasher**

### AEG COMFORTLIFT FSS62800P

**£689, aeg.co.uk**



The award-winning ComfortLift drawer pulls out and rises up for easy emptying, which means this is that rare thing: an exciting dishwasher. Cleaning performance is good too, and it's quiet.

### MIELE G6630SC

**£849, miele.co.uk**



This Miele is superbly economical and offers open-drawer drying, an easily adjustable cutlery tray and a new, versatile basket system. Wash performance is exceptional.

### BOSCH SERIE 6 SMV68MD02G

**£549, bosch-home.co.uk**



This Bosch dishwasher is boring in all the best ways: it's solid and does the job quietly and efficiently. If you have an open plan home you'll love the super quiet 40dB SuperSilence mode.

### BEKO DIN29X20

**£349, beko.co.uk**



For the price, this cracking 14-place model comes with a comprehensive assemblage of tech, a great interface and more wash programs than you probably need. It's energy and water efficient too.





## COFFEE MACHINES

Find the lowest prices at:  
**t3.com/bestcoffee**

### SAGE BY HESTON BLUMENTHAL THE ORACLE TOUCH

**£1,999, sageappliances.com**



The Oracle Touch looks like a barista-operated machine, it produces coffee like one, yet all the clever stuff – dosing, tamping, extraction, milk texturing, is done for you. Not cheap – but amazing.

### SAGE BY HESTON BLUMENTHAL BARISTA TOUCH

**£999, sageappliances.com**



Cheaper, faster and with better frothed milk than the Oracle, this may be the better buy for most unless being unable to make coffee and steam milk at the same time is a deal breaker.

### GAGGIA VELASCA

**£466, gaggiadirect.com**



The espresso and lungo that the Velasca make are as good as anything you can buy in most coffee shops. It produces a reassuringly old-fashioned, intense flavour for your brew.

### JURA S8

**£1,395, uk.jura.com**



The coffee is as good as you'd expect but the star here is the texturing unit. It produces wonderfully silky milk, making it the best machine for lovers of milky drinks such as cappuccinos.



## FRIDGES

Find the lowest prices at:  
**t3.com/bestfridge**

### MIELE K 28202 D WS

**£875, miele.co.uk**



If you have the cash and 60cm of space with no cupboards above, this cooler should be top of your list. Its clever cooling keeps foodstuffs fresh without humidity, and it's cavernous.

### BOSCH SERIE 2

**£599, bosch-home.co.uk**



Looking for a mid-sized larger fridge that doesn't cost the Earth, provides plenty of space, cools quickly and is cheap and reliable to run? Consider this efficient and well-made Bosch.

### LIEBHERR TP 1760 PREMIUM

**£399, liebherr.com**



This AAA energy rated under-counter model is cheap to run, if pricey to buy. But running costs aren't the main reason you'll like it: despite its diminutive exterior, it's like a TARDIS inside.

### SAMSUNG RR39M73407F/EU

**£829, samsung.com**



This has a massive 375-litre capacity. It includes two large vegetable containers with humidity control, a wine rack, a water dispenser and a shelf that splits to make room for taller items.



## OVENS

Find the lowest prices at:  
**t3.com/bestoven**

### NEFF N 70 B57CR22NOB

**£789, neff.co.uk**



The unique Slide and Hide door is brilliant, the touchscreen is handy and the oven's no slouch: it enables you to cook multiple dishes without cross-contamination from strong flavours.

### BOSCH HBG634BS1B

**£599, bosch-home.co.uk**



The Bosch is equipped with 71 litres of interior cooking estate and self-cleaning catalytic linings. It's particularly good for bakers who need consistent temperatures for big batches.

### AEG DCE731110M

**£849, aeg.co.uk**



The AEG is smart, self-cleaning and big: the 61 litre lower oven has room for large stuff like turkeys while the top 43-litre cavity is big enough to grill six slices of Warburtons.

### MIELE H 6860 BPX

**£3,949, miele.co.uk**



For just shy of four grand, you might expect gold linings and diamond-encrusted control dials. Nope. But it's packed with tech that makes cooking perfect dishes totally foolproof.





## ELECTRIC SHAVERS

Find the lowest prices at:  
**t3.com/bestshaver**

### PHILIPS SERIES 9000 PRESTIGE

**£300, philips.co.uk**



The best shaver around has a silly RRP (£430!) but is available for around £300. It's good for sensitive skin, mows long stubble and is really close to the shave you get from traditional razors.

### PHILIPS SERIES 9000 S9211/26

**£149, philips.co.uk**



Much cheaper than the Prestige, but with similar superb shaving performance. It doesn't have the anti-friction coating, and is less adept at longer stubble, but is still brilliant.

### BRAUN SERIES 9 9296CC

**£327, braun.com**



This is Braun's best and it's great if you don't shave daily. The Braun laughs in the face of three-day growth, and its retractable beard trimmer helps shape what you don't shave off.

### PANASONIC ES LV95

**£160, panasonic.com/uk**



Don't pay the £330 RRP: this superb wet and dry winner is widely discounted and often available for half the price. At that price it's a bargain alternative to much dearer premium shavers.



## ELECTRIC TOOTHBRUSHES

Find the lowest prices at:  
**t3.com/besttoothbrush**

### PHILIPS SONICARE 6100 PROTECTIVECLEAN

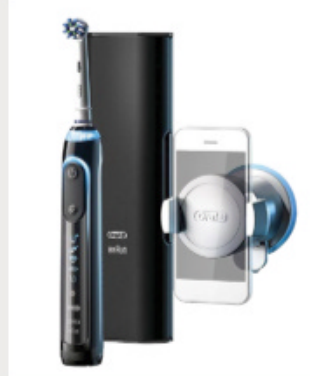
**£89, philips.co.uk**



This is the pick of the excellent Sonicare range: not too pricey but not lacking any important features either. It's very capable and still works fine without Philips' expensive 'smart' brush heads.

### ORAL-B GENIUS 9000

**£85, oralb.co.uk**



This is an extremely good electric toothbrush with a rather pointless smartphone app, but it does a great job of cleaning and comes with four – four! – brush heads, so it's a bit of a bargain.

### PHILIPS SONICARE DIAMONDCLEAN SMART SONIC

**£360, philips.co.uk**



It's hilariously expensive and monstrously over-specified but this range topper looks good and, more importantly, it makes your teeth look good. Shop around – don't pay the RRP.

### PHILIPS SONICARE DIAMONDCLEAN SONIC

**£145, philips.co.uk**



A smarter buy than the Smart Sonic, this is a great toothbrush with an attractive but cumbersome and easily smashed glass charger. It also comes with a handy travel case with USB power.



## BEARD TRIMMERS

Find the lowest prices at:  
**t3.com/besttrimmer**

### PHILIPS SERIES 9000 BT9297/13

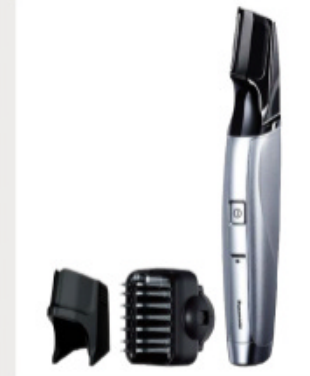
**£80, philips.co.uk**



The best trimmer for general beard maintenance, this has a largely superfluous laser (for ultra-straight edging, supposedly) but also boasts the very best blades in the business.

### PANASONIC ER-GD60

**£50, panasonic.co.uk**



For slightly longer beards, this is the one to go for. Its unusual, 'side-on' cutting action, where you pull the shaver through your hirsute tresses more like a comb, soon becomes second nature.

### PHILIPS ONEBLADE PRO

**£50, philips.co.uk**



The best trimmer for those with sensitive skin, this uses innovative OneBlade technology. It's good for both your face and your downstairs, although you may wish to change heads in between.

### BRAUN BT3040

**£26, braun.com**



This is a bargain all-rounder, offering 39 precision length options with its combs, plus you get a Gillette razor included for edging. The battery life isn't great, but otherwise this is a top deal.



## FITNESS TRACKER

Find the lowest prices at:  
**t3.com/bestfitness**

### FITBIT CHARGE 3

**£130, fitbit.com**



There's no GPS and the capacitive 'button' is a bit pants but this is otherwise a textbook tracker. Sleep, steps, swims, and serious cardio workouts are all handled with aplomb.

### GARMIN VIVOSPORT

**£79, garmin.com**



Garmin's rival to the Charge 2 boasts GPS for a similar price, but it also has a dodgy interface and some pointless extra features. The core functionality is good, and it's waterproof.

### TOMTOM SPARK 3 GPS+ HEARTRATE

**£119, tomtom.com**



The best tracker for strenuous exercise gives you VO2 Max readings and your Fitness Age, and it does the basics very well. It's hideous, but it's what it's like on the inside that matters.

### MOOV NOW

**£45, moov.cc**



Cheap, waterproof to 30m and good for six months between charges, the Moov is a budget belter that offers coaching as you exercise. Some are better than others, but it's good.

## RUNNING WATCH

Find the lowest prices at:  
**t3.com/bestrunningwatch**

### GARMIN FORERUNNER 645 MUSIC

**£349, garmin.com**



This does everything: GPS for running and cycling, heart rate tracking, VO2 Max, intensity monitoring and even acting as an MP3 player. Expect four days of use between charges.

### GARMIN FORERUNNER 630

**£309, garmin.com**



The official price is similar but thanks to discounting this is often much cheaper than the 645. There's no heart-rate or music but you do get GPS, reliable tracking and ace running metrics.

### GARMIN FORERUNNER 235

**£175, garmin.com**



The Forerunner 235 is the best value running and general fitness watch around, offering more than enough data for most runners without the expense of slightly more powerful models.

### GARMIN FORERUNNER 935

**£389, garmin.com**



Add Garmin's extra sensors to this and you get incredible detail for how you run, swim, bike and more, as well as your VO2 Max, lactate threshold... it's for the very, very serious.

## RUNNING HEADPHONES

Find the lowest prices at:  
**t3.com/bestrunningphones**

### JABRA ELITE ACTIVE 65T

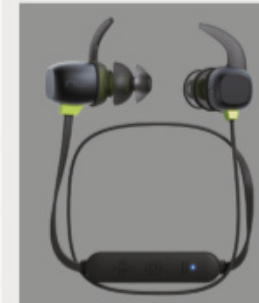
**£119, jabra.co.uk**



These are the best-fitting true wireless buds we've tested. They're particularly good for vigorous workouts and don't suffer too badly from wind noise when you're out for a run.

### OPTOMA NUFORCE BE SPORT 4

**£90, optoma.co.uk**



Running headphones often sacrifice sound quality. Not here. These sound stunning, fit like a glove and are great value. The effective sound isolation may be a bit much for some.

### SOUNDCORE SPIRIT SPORTS BY ANKER

**£27, anker.com**



Our favourite budget running headphones fit brilliantly and are very waterproof and sweat-proof. Sound quality is acceptable rather than astonishing, but we'll forgive that.

### RHA TRUECONNECT

**£149, rha-audio.com**



With sweat-proofing and comfortable (and secure) fitting thanks to the huge range of ear tips, these bring high-quality sound to your wireless workout. They last five hours per charge, too.



**T3**

# LUXURIES

Exclusive gifts to  
seriously spoil yourself



## RÉMY MARTIN LOUIS XIII SMART DECANTER

Unless you're over 80, or have appeared on *Bullseye*, you've probably never owned a decanter. But you might want to break that habit for this little gem. Designed for fans of Rémy Martin's luxury Louis XIII cognac, it's the first such receptacle to boast smart connectivity. Once you've registered with private members' club the Louis XIII Society, simply tap your NFC-enabled phone or tablet on the mouth-blown, crystal cork stopper and you'll activate a range of swanky benefits: bespoke engraving services; notifications of limited-edition releases; access to a private advisor for arranging personal tastings; and an invitation to network with Louis XIII lovers all over the world. If ever there was a reason to develop an unhealthy drinking habit, this is it.

£TBC, [louisxiii-cognac.com](http://louisxiii-cognac.com)

**T3** NEXT ISSUE IS ON SALE FRIDAY 15 MARCH

Discover the most important and exciting tech trends in our Hot 100 countdown!



The STIHL logo is displayed in white, bold, italicized capital letters on an orange rectangular background in the top right corner.

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GARDEN  
MAGIC



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Make quiet work of cutting smaller sized lawns with the magical STIHL COMPACT Cordless Power System. Lightweight and manoeuvrable, the RMA 235 cordless mower features automatic eco mode, flow optimised blades for longer battery life and an easy opening

30 litre grass collection box. The handlebars are height-adjustable for comfortable operation and foldable for easy storage. The RMA 235 uses a battery that swaps effortlessly across all seven tools in our COMPACT range.

Visit [stihl-magic.co.uk](http://stihl-magic.co.uk) or pop into your local dealer for a demonstration of our products.

\*The handheld STIHL COMPACT cordless tools shown above start from £199 including battery and charger. COMPACT cordless lawnmower shown is £369 including battery and charger.

The STIHL COMPACT  
cordless garden  
range from

**£199\***

Find your local dealer at [www.stihl-magic.co.uk](http://www.stihl-magic.co.uk)   